Dear Client,

You have just purchased a **ROLLAND spreader**.

We would like to thank you for the trust you have placed in us.

ROLLAND spreaders have been studied so that their spreading technique can be maximised. They are the product of our technology and experience in this field.

This manual must be considered as forming an integral part of your spreader.

For proper usage, and to be able to take advantage of all of your spreader's capability, we recommend that you read this manual carefully, and adhere strictly to all of the instructions contained herein.

The correct functioning and durability of your spreader will depend on this, as will your safety and that of others.

Keep this document in its entirety should you need to consult it in due course. This must always be kept in the spreader, even in the event that it is resold.

Failure to adhere to the instructions contained herein release both the manufacturer and seller from all liability.

We reserve the right to add at any time those modifications that we deem useful for our products etc, without the obligation to previously delivered products or those under construction. We also reserve the right to modify without forewarning the models defined in our catalogues, leaflets or appearing on our web site.

Please accept our best wishes and most sincere thanks.

REMORQUES ROLLAND

Z.A des Landes
29800 TREFLEVENEZ - FRANCE
Tél. : 00 33 (0)2 98 85 13 40
Fax : 00 33 (0)2 98 21 38 15
www.remorquerolland.com

Contents

1 – Safety Instructions

Before putting into service, please study the operating instructions and respect safety guidelines!

In these user instructions all hazards and risks to which operators or other exposed persons are subject to have been highlighted by this symbol.

Glued onto the spreaders, safety signs indicate how to use the machine without danger:
Respect for the notices = safety

Standard Usage

The spreader has been designed and manufactured for the standard usages described in this manual
Four situations are defined herein: Parking, loading, transport and spreading (chapter 5)

Nonetheless, a certain number of foreseeable non-conformity scenarios are questionable and specifically forbidden. The manufacture will not be for damages resulting from these actions.

It is of the utmost importance to respect the contingency regulations against accidents as well as the other applicable legislation in force in terms of safety, health provision in the workplace and the Highway Code.

The manufacturer waives all liability with respect to damages caused as a result of an unauthorised modification of the machine.

General Safety Regulations and Contingency Plan against Accidents.

1. **Definition of the vehicle's consignment**: before undertaking any actions on the machine, switch off the engine, release the hydraulic pressure, apply the parking brakes (tractor AND trailer) and remove the keys from the ignition.
2. Prior to starting the tractor's engine, take care to ensure that the power take-off is not engaged and that all safety devices have been equipped and are in perfect working order.
3. Never disengage or deactivate safety device. For adjustments, servicing and maintenance, the procedures described in the manual must be strictly adhered to (above all chapters 6/7.
4. It is wholly forbidden to pass under the vehicle when operational.
5. The machine's usage is done so entirely at the responsibility of the driver. The absence of third parties in the vicinity of all manoeuvres must be guaranteed.
6. Given the residual risks from collisions or damage at the spreader apparatus (AND in its projection area) and that it is technically impossible to protect it (at the very least during the working phase=, it falls under the responsibility of the driver to ensure that no third parties are present in the environs when the machine is in movement.
7. The driver must be fully empowered to use the machine in the most appropriate conditions.

2 – Warranty Conditions

In order to benefit fully from the manufacturer's warranty, please make sure you follow the maintenance operations and utilisation advice provided in this manual. Should any problems arise, the user must contact the dealership.

Warranty Conditions:

Our spreaders are guaranteed for parts and labour for one year, counting from the date the machine is into service.

Under no circumstances can ROLLAND S.A. be held responsible for an incident arising from the failure to respect these instructions for handling, servicing or maintenance of the machinery.

The guarantee is valid only for the supply and replacement of defective parts.

The warranty is invalid and we waive all responsibility in the following instances:

1°) where the machine has been modified using elements constructed outside of our workshops or those not manufactured by our distributers without our prior authorisation.

2°) where the original serial number has been falsified.

3°) where the factory assembled pieces produced by ROLLAND have been disassembled and replaced by parts of a different origin.

4°) where breakdowns and malfunctions are the result of negligence, misuse, overloading, including even passengers, the lack of operational knowledge on the part of the user, or due to the introduction of a foreign body into the machine during operations or failing to lubricate it properly.

Repairs, modifications or replacement of pieces during the warranty period cannot extend the duration of the warranty for the materials.

Following the receipt of your vehicle, make sure that this is in all points, compliant with the technical specifications and that this has not suffered any damages.

In order to speed up the guarantee implementation process *"THE GUARANTEE IMPLEMENTATION DECLARATION"* accompanying this technical notice must be completed and returned in the month following delivery.

3 - Presentation of the vehicle

This manual is standard for all ROLLFORCE and ROLLMAX spreaders from the ROLLAND range. It has been designed with the aim of giving you all the necessary information on the vehicle that you have just purchased and to get the best from it.

DESCRIPTION :

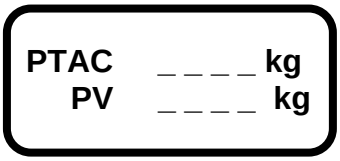
The spreaders are all fitted with either a “ROLLAND” sturdy suspension beam , or they may also be fitted with a "ROLLFAST” hydraulic suspension rod.

These are mounted onto a chassis fitted with an adjustable, spring, or hydraulic jib.

Identification :

To know the features of your trailer, please refer to the sticker board attached below the right front side of your vehicle. A plate with a self-adhesive sticker will also state the total authorised load weight (TALW) and the empty weight (EW).
A cold stamping (serial number) is fitted under the vehicle's chassis.
This serial number is necessary all warranty exchanges with your dealership or the factory

DISCPLATE



MAX WEIGHT STICKER

Towed agricultural vehicles are governed by two different regulations:

- The Labour Code
- The Highway Code

Rolland's vehicles come supplied with their official documentation and a label containing the EC conformity stamp. These two documents verify that the two sets of regulations have been adhered to.

CERTIFICAT DE CONFORMITE

11- CE Conformity Declaration for machines

(According to Annex IIA of Machines Directive 2006/42/CE)

Manufacturer: Ets ROLLAND

Address: Z.A des Landes 29800 TREFLEVENEZ

Name and address of the person authorised to elaborate technical dossier:

Name : Béatrice LE GALL

Address : Z.A des Landes 29800 TREFLEVENEZ

Through this document, we declare that

The machine:

- Brand: ROLLAND
- Commercial Designation:
- Type:
- Serial Number:

is in accordance with the relevant disposals of Machines Directives (2006/42/CE).

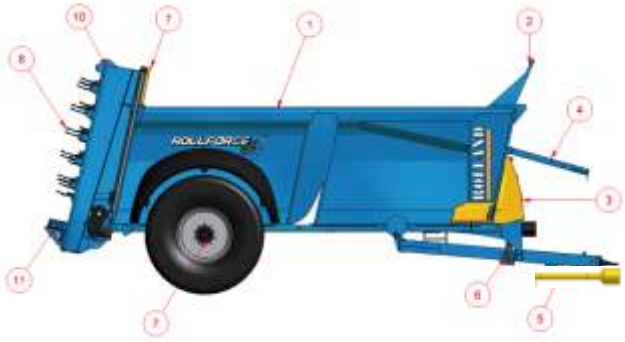
In addition, we declare that

(parts / articles) compliant with the following European standardised standards were applied.

In addition to this label and depending on the options selected, complementary markings (TALW, hydraulic weighing or on rod gauges, 1,2 or 3 axles, roll-control…).

Sideways View

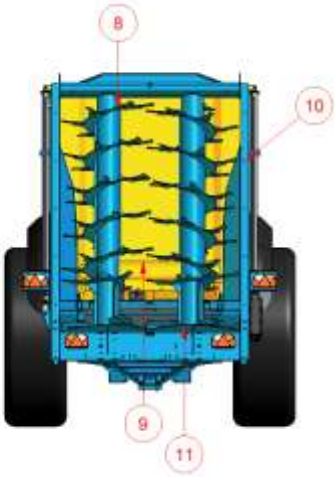
ROLLFORCE



ROLLMAX

Front and rear view

ROLLFORCE



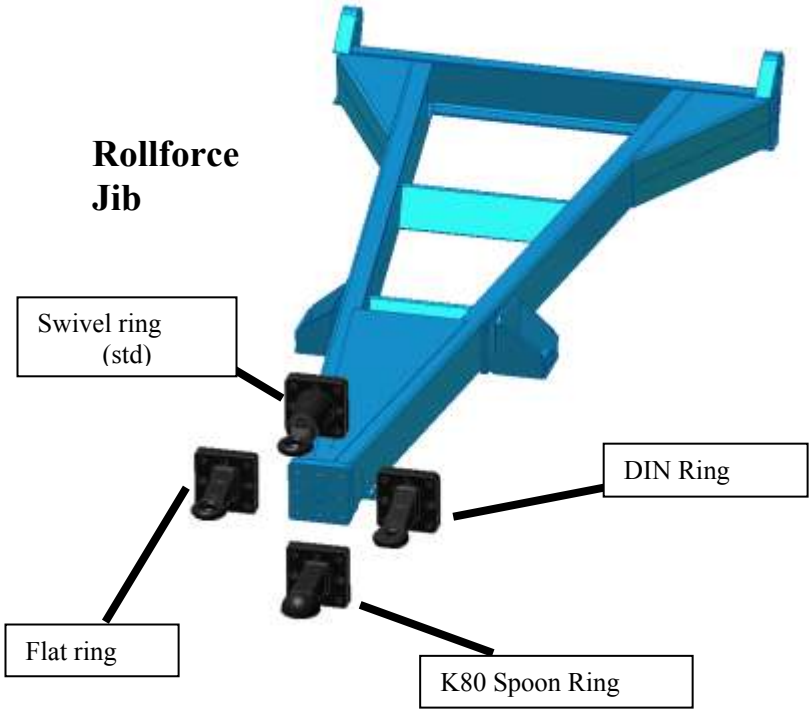
ROLLMAX

1	Chassis	**7**	Ro-Ro Transport
2	Front Deck	**8**	Spiked roller
3	Protective Hood	**9**	Hatch
4	Front Nose	**10**	Spreader Frame (2100Kg maxi)
5	Jib	**11**	Spreader Deck
6	Jib regulator		

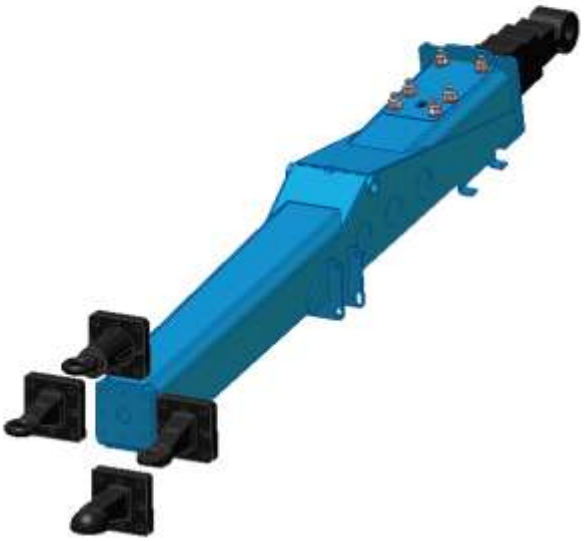
Technology and options available:

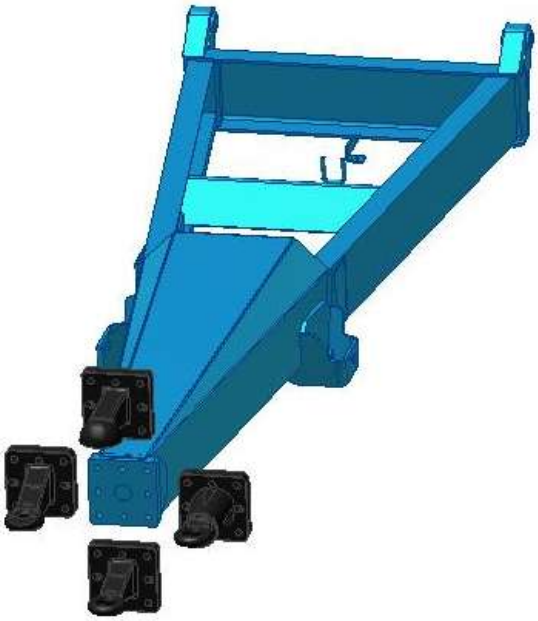
Demount Ring

Jibs with 8 hole interfaces allowing for the mounting of several types of rings: flat, swivel, spoon, DIN).



Rollforce Jib

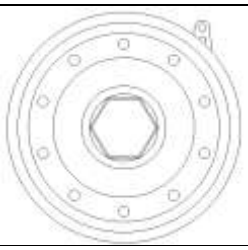
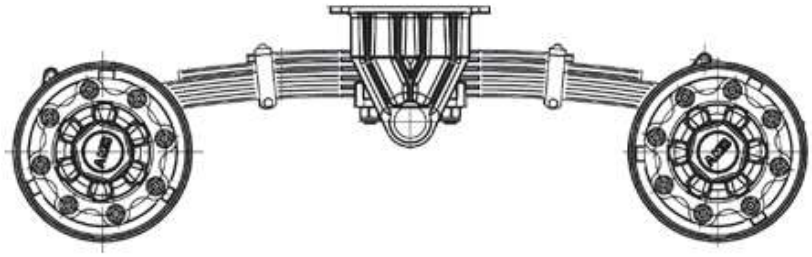
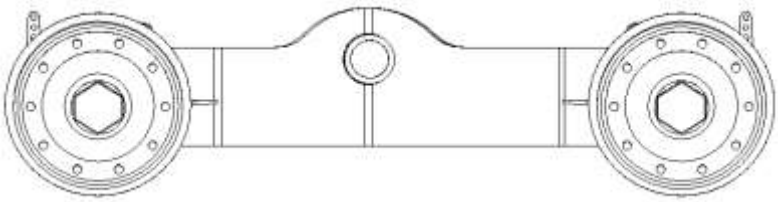
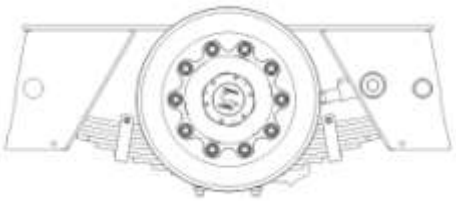
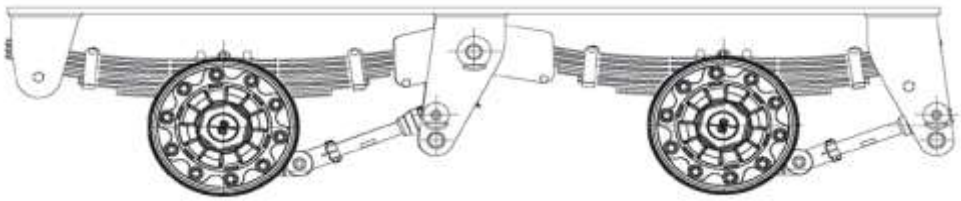
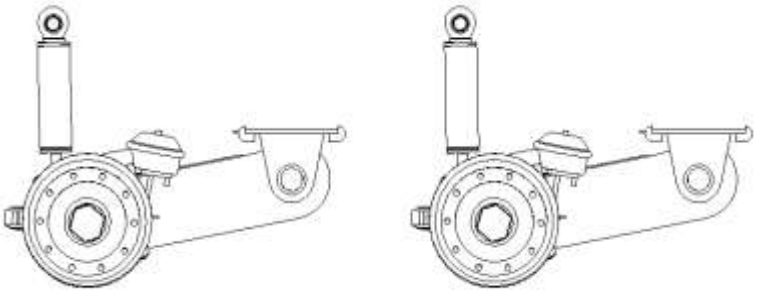




Rollmax Jibs

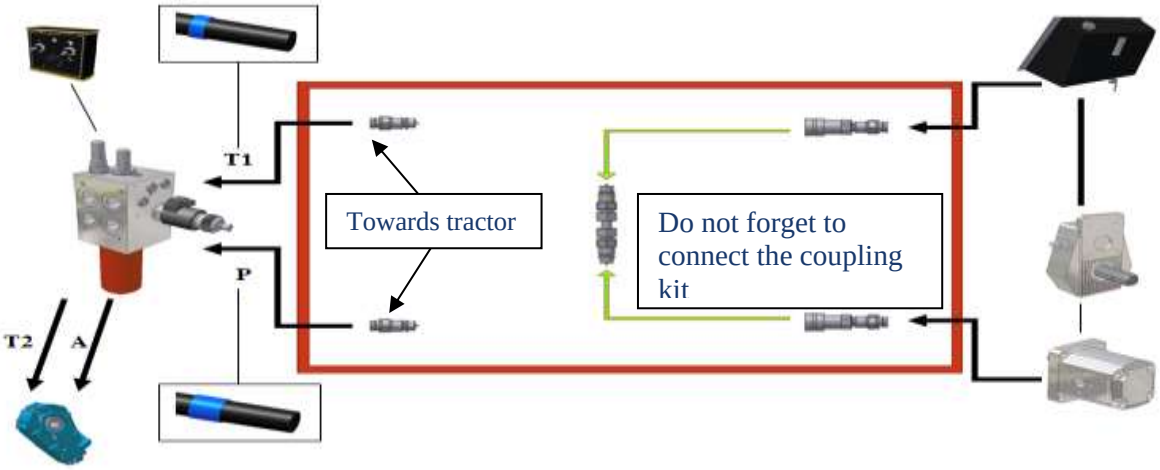
Haulage :

Direction of Travel

Simple axle (ROLLFORCE)	
Undercarriage (option on ROLLMAX 5420, 6325 and7130)	
Offset pin bogie beam (standard on ROLLMAX 5420, 6325 and7130)	
Semi - Tandem (option on ROLLFORCE)	
Rod Tandem (option sur ROLLMAX)	
Triple Axle (standard on ROLLMAX 8735)	
Rollfast (option on ROLLMAX)	

Advancing : There are several types of forward movement, and in each case several of these can be managed from the junction box in the cabin as well as from the tractor control unit which is always on standby. See the table below for the current existing combinations : Troubleshooting tractor repairs (Insulation pump).

Power Source	Function	Command	n° d'avance
1) Open tractor : operates due to the tractor's coupling connectors	**1) Base:** Forward drive belt solely	Manual adjustment	110
		Without display	111
		With display	112
		With display+DPA	113
	2) 2 functions : With display	Without display	121
		With display	122
		With display+DPA	123
	3) 3 functions : forward drive belt + hatch +fume hood	Without display	131
		With display	132
		With display+DPA	133
2) Pump: The pump is mechanically activated using the power take-off and multiplier located upwind (during repairs, troubleshooting or servicing, the coupling elements may be connected to the traction, as per the basic diagramme below).	**1) Base:** solely with forward drive belt	Without display	211
		With display	212
		With display+DPA	213
	2) 2 functions : forward drive belt + hatch	Without display	221
		With display	222
		With display+DPA	223
	3) 3 functions : forward drive belt + hatch +fume hood	Without display	231
		With display	232
		With display+DPA	233



Procedure for carrying out traction repair: 1- Disconnect the push-pull 1 and 2 and push-pull 3 and 4.

Flexible repair kit

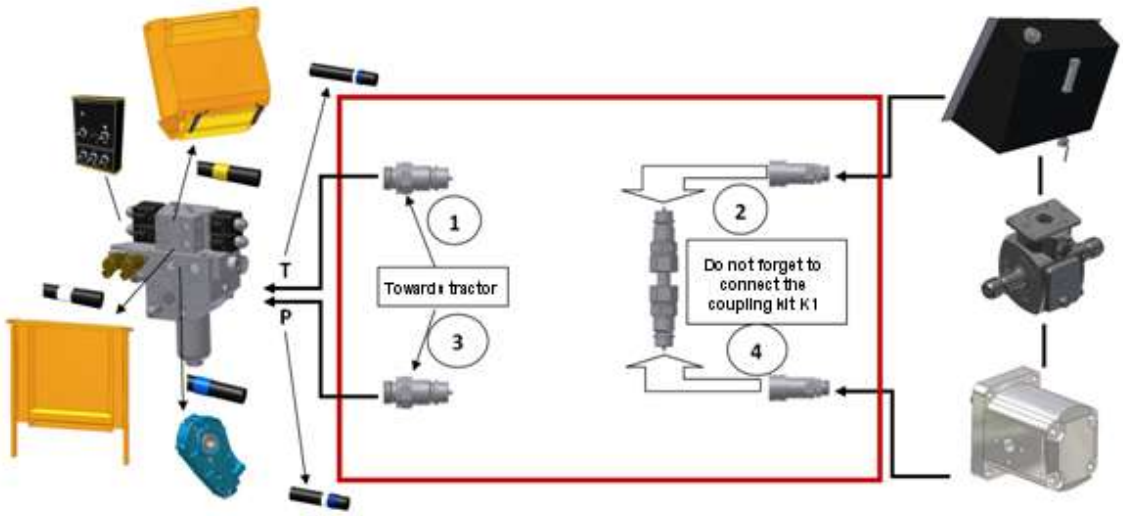
2- Connect push-pull 2 and 4 between them with the help of connector kit K1.

3- Connect push-pull 1 with one with one of the two troubleshooting connectors on the pressure side of the tractor distributor.

4- Connect the push-pull 3 with one of the two troubleshooting connectors on the return side of the tractor distributor.

N.B : To carry out this operation in reverse it is necessary to invert P and T1 either push-pulls 1 and 3 on the tractor.

Procedure for carrying out traction repair (please refer to traction repair on page 10)

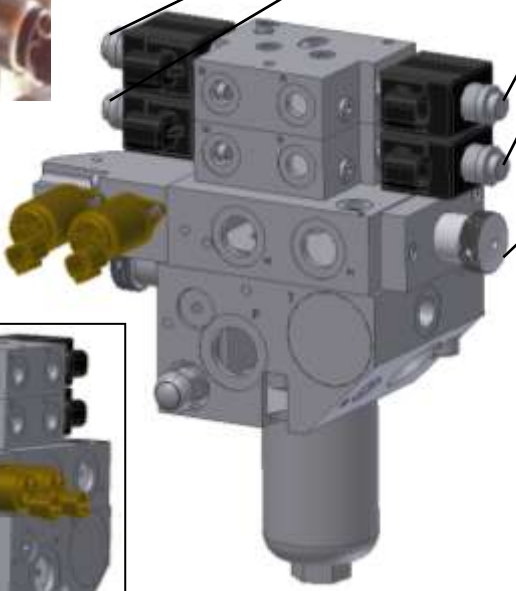


Repair of the distributor in forced mode

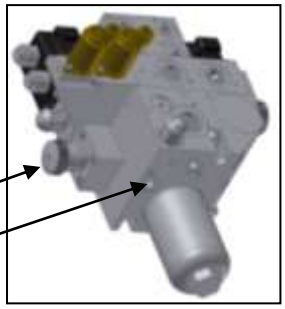
Use a screwdriver to force open manually a section of the distributor
(Opening or closing the hood trap, as in the photo)

Use an allen key and tighten the hc screw to empty the machine manually (manual repair).

Rest on the knurled nut to perform AR manual operation



For utilisation in LS mode, connect the flexible to the opening with the LS markings, then support and screw the left knurled nut



N.B : A collar is fitted as standard to prevent shifting to LS involuntarily (causing risk of pump deterioration !!)

This table explains the functions of the elements that comprise the 18 types of forward motions in use. In the column « forward motions in question>> we have the numbers of the forward advances used by the item in that line (for example in 122, two forward motions are used in 121, 122, 123, 221, 222, 223).

Element	Function	Forward motion in question
Fuel tank 	Contains around 80 litres of oil to power the pump (1 emptying per year or every 200 hours' usage) Viscosity Index: 46	211, 212, 213, 221, 222, 223, 231, 232, 233
Multiplicator 	Provides the impetus to turn at1000r/min to spin the pump 3000 tr/min (1 emptying per year or after every 200 hours' usage) Amount : 0.32 litres max Viscosity Index : 400	211, 212, 213, 221, 222, 223, 231, 232, 233
Pump 	Oil fuel pump from the tank to the distributor with output rate of 50 l/min to 1000 tr/min (power take-off)	211, 212, 213, 221, 222, 223, 231, 232, 233
Connector kit K1 	This coupling kit allows for the disconnection from the regulator and the pump. This is essential for its protection.	211, 212, 213, 221, 222, 223, 231, 232, 233
Terminal block 	Attaches all the different sensor threads to a harness	112, 113, 122, 123, 132, 133, 212, 213, 222, 223, 232, 233
Reductor 1/40 	Reduces engine speed so that the belt operates at working speed.	All models

Element	Function	Stage in question
Hydraulic Engine 	Powered by oil, this maintains the reductor that supplies the belt. A 160 cm³ engine for simple drills and two motors of 130 cm³ mounted side by side for double drills.	All models
Proportional Regulator 	Ensures even oil distribution throughout the circuit, in proportion to any given electrical data. Pressure filter to be changed annually. This unit is fitted with two pressure caps to safeguard emptying and clearance operations.	111, 112, 113, 211, 212, 213
2 –way distributor 	Allows for oil feed for shock absorbers and hatch functions.	121, 122, 123, 221, 222, 223
3-way distributor 	Allows for oil feed for tappet and hatch and tractor funnel functions.	131, 132, 133, 231, 232, 233
Inductive wheel sensor 	Gives the distance run with the spreader in tow.	112, 113, 122, 123, 132, 133, 212, 213, 222, 223, 232, 233
Inductive sensor on the reductor	Indicate the distance covered by the shock absorber and their condition.	112, 113, 122, 123, 132, 133, 212, 213, 222, 223, 232, 233
Pressure gauge 	Inform the user of the oil pressure within the circuit.	112, 113, 122, 123, 132, 133, 212, 213, 222, 223, 232, 233
Manual regulator 	Ensure even distribution of oil throughout the circuit. This is adjusted by a rotary selector.	110

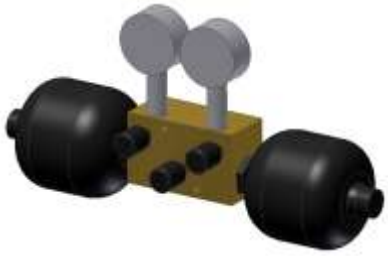
The different control units

Element	Function	Forward movement
	Controls the fanbelt and regulates its speed, 2 setting ranges (hare / tortoise) for optimal operational capacity. Clearance is achieved through the tractor's distributor command box.	111, 211
	Controls the fanbelt and regulates its speed, 2 setting ranges (hare / tortoise) for optimal operational capacity. The screen displays the belt speed, the hydraulic pressure, and the distance travelled by the belt.Clearance is achieved through the tractor's distributor command box.	112, 212
	On top of the basic functions, it can invert the belt's direction, give the order for the hatch (2 functions) to be opened and also the escape funnel TCE (3 functions).	121, 131, 221, 231
	On top of the basic functions, it can invert the belt's direction, give the order for the hatch (2 functions) to be opened and also the escape funnel TCE (3 functions).The screen postss the speeds, hydraulic pressure and the distance covered by the belt.	122, 132, 222, 232
	3-Way command box with FP (Forward Proportional Debit). The screen posts the speeds, hydraulic pressure and the distance covered by the belt.	113, 123, 133, 213, 223, 233

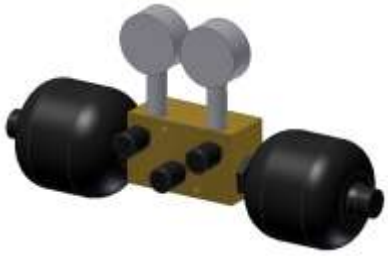
Axle lock:

- **The axle** follows the vehicle and operates by displacement caused by turns, and should be blocked whilst travelling (at average or high speeds) and in reverse.
- **The auto-pilot axle** is an axle controll cylinder located on the vehicle's jib, a closed hydraulic circuit with nitrogen-filled spheres to keep up the pressure. A tread needs to be placed on the tractor. It is to be noted that Rolland auto-pilots can be turned into axles when attached to a treadless tractor since the blocking cylinders of the axle lock have been preserved. The advantage of this system is that heat doesn't need to enter at the point of driving motion, whether forwards or in reverse.

Rolling mechanisms with 1 auto-piloted axle mainly comprise of the following element:

Component	Quantity	Illustration
Hydraulic block 1 axle	1	

Rolling mechanisms with 2 auto-piloted axles are mainly composed of the following elements :

Component	Quantity	Illustration
Hydraulic block 1	2	

Do not connect the shut-off tube on the axle lock when pipe is in auto-pilot mode.

Hydraulic flaps:

Hydraulic flaps are available as an option with models V17, V21 and V25 for C10 and ROLLFORCE spreaders. Thjese flaps facilitate spreading operations on the borders of land plots. It is possible to have a left or right-sided flap, or even one on both sides.

Weighing:

ROLLFORCE and ROLLMAX spreaders are able to be fitted with weighing systems.Weighing information is shown on the jib or axle mounted sensors.Weighing information is then caught on the weighing control box. The data is then recorded in the box by client or plot of land worked. Over and above the weighing system, the user may instal data evaluation software which enables client or plot management (data memory up to 65 000 weighings).A compact, on-board battery operated printer which issues a ticket giving information on load weight, cumulative totals, by client or land plot is also available as an option.

	Weighing box
	Weighing sensor
	Data analysis software
	Compact printer

FPD (Foward Proportional Decrease) :

Printer
(Optional)

Characteristics :

- Aluminium box

(Dimensions : l = 160mm, L= 110mm, P= 40mm)

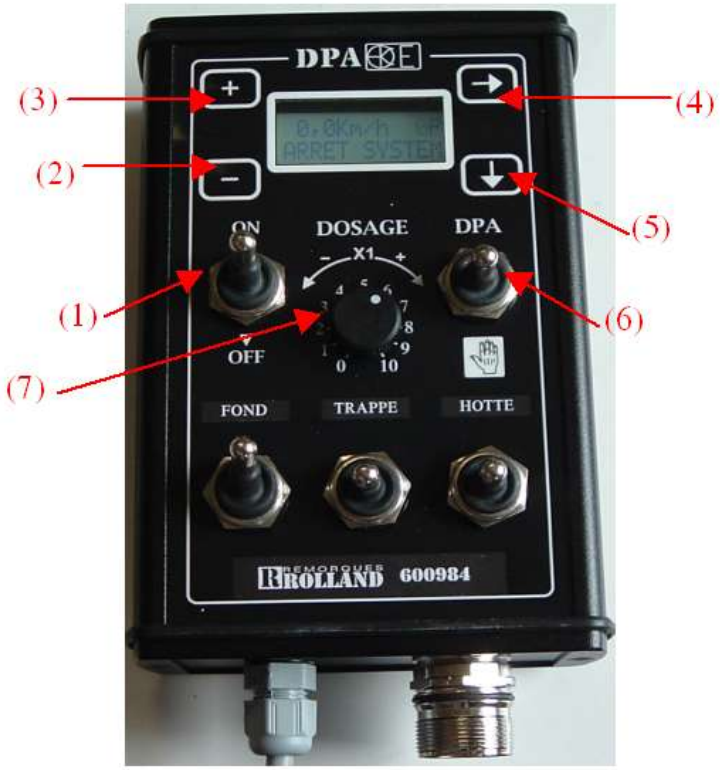
- IP 67.
- Protected against reverse polarity. -
  Beam base IP68.
- Screen 2*12 characters with blue backlight.
- Printing option.
- Command 6 solenoid valves (3A max)

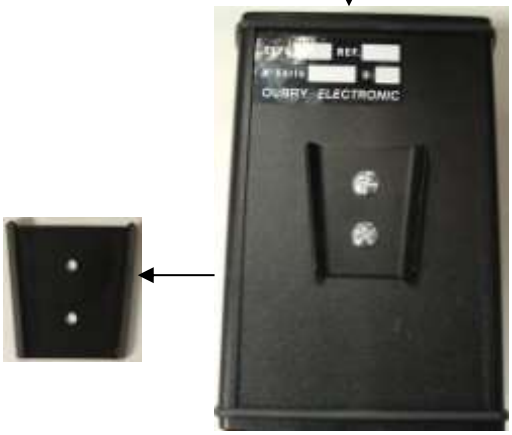
Prininting plate
(Optional)

Please note :

As soon as the box is correctly wired, you may go ahead and use the product as follows :

-Press the ON/OFF switch (1) to the ON position.





Normal display :

The machine's speed of travel is given in kilometres per hour and emanates from the sensor attached to the machine's wheel.

Fan belt speed is given in metres per hour and originates from the sensor mounted on the belt (on the reducer).

Normal Menu Operation

FPD mode : allows for the setting up of machine tuning guides

This function is activated by pressing on button « ↓ » (5).The setting up of parameters is carried out by touch « → » (4) which in turn causes the cursor to move. Cursor position signals the number which will be modified on touching « + » (3) et « - » (2).

After set-up of first adjustment, press on 1st, press by touch « ↓ » (5) to change menu and save the set-up .

The adjustable set ups are :

A page which permits spreader speed reference configurations in FPD mode.

A page which permits previously returned belt speed configurations.

A page which allows the length of the spread to ber configured, this set-up is important in calculating surface areas worked.

A page which indicates the number of hectares worked since the spreader set off; this counter cannot be reset to zero.

A page which indicates the number of hectares worked since the spreader set off ; this counter can be reset to zero by pressing touch (4) →.

Page signalling the distance travelled by the bbelt in metres since the spreader was brought into service.

Page which indicates in metres the total belt travel distances since it was last reset to zero by pressing on touch(4) →

A page indicating work time (belt deployment time) since it was last reset to at zero. Resetting to zero can be done by pressing touch for this counter (4) →.

A page which allows the configuration of the system reactivity index, this setting is to be adjusted in order to avoid belt pumping.

Page indicating working time (total belt operating time) since being brought into service. It is not possible to reset this counter to zero.

Manual mode:

Manual mode is activated by changeover from the 2nd switch (6) to « manual », but there is then no speed adjustment. The hydraulic block can be varied by the intervention potentiometer which will alter the current which can alter the current from 0 to the highest factory setting.

Ticket Printing (Option) :

Client :

Surface : 10.0 Ha
Time : 0010 H 25min

P 20) Press on the pushbutton which is to be found on the upper FPD lid in order to give ticket print-off order.
The printing settings are as follows:

- The surface area worked since last zero reset of the part-hour counter.
- Time in service since last reset to zero on the hour gauge
- It isn't possible to print a ticket if you're on the main page.

Stop mode :

Stop mode is reached by centring the switch (6), which causes a ceasing of adjustment.

4- Commissioning

Trailer hitching :

Hitched trailer speeds should not exceed 25 km/h or 40 km/h (according to model). The attachment is assured via a standardised ring (all hitching types can be secured by using a bracket, flange and pin).

PROCEDURE

- **Ensure that the tractor used can tolerate the weight burden imposed by the trailer.**
- **After hitching the trailer to the tractor, check that the cup plate is properly positioned and secured in the locked -on position.**
- **Before commissioning, check that all applicable points have been greased (see the maintenance chapter)**

- **Adjustable tractor hitching** (automatic bracket or collector) :
- Reverse slowly, with tow bar lowered and ring and tow pole married up.
- Once in position, raise the towing apparatus (the ring will automatically find its own level).
- Lockt he device in place.
- Re-introduce the hydraulic or mechanical stand.

- **Attelage tracteur fixe** (ringbolts, tow plate, hitch bar) **:**
- Place the stand in position (ring above the ringplates or at tow plate level, or at the hitching bar level).
- Adjust hitching devices (tractor and machine) :

OR
OR

- the ringbolt and then move down ring (the ring will automatically find its own level).
- Tow plate
- Hitch bar

Manoeuvre tractor into position where necessary

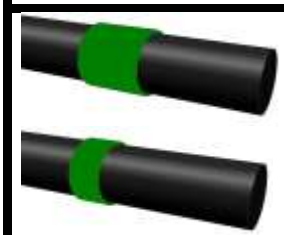
- Place the stand support in position and lock the stand.
- Connect all hydraulic cables (tyres optional).
- Wire up the lighting.

Tyres :

- At the time of vehicle commission, it is vital to check and adjust pressure in line with the tyre's load-bearing capacity and the conditions under which the vehicle is to be used.

Connecting the pressure lines :

Connections can be made when the motor is turned off, when hydraulic pressure has been released, and with the contact key taken out.

Flexible marking/tagging	Function	Flexible marking/tagging	Function
	Braking		Belt pressure (DE) Belt return (DE)
	Funnel closing (DE) Funnel opening (DE)		Load transfer (SE)
	Axle locking (SE) Axle locking (DE)		Hatch opening (DE) Hatch closing (DE)
	Hydraulic boom cylinder output (DE) Hydraulic boom cylinder return(DE)		Hydractive suspension pressure (DE or SE) Hydractive suspension return (DE or free return)
	Passive suspension pressure (SE) Passive drain suspension (Free return)		

*SE : Simple Effect distributor (pressure/ floating position)
*DE : Double Effect distributor

Breaking circuit :

Spreaders come equipped with three braking systems, each of which ensures precise operating.

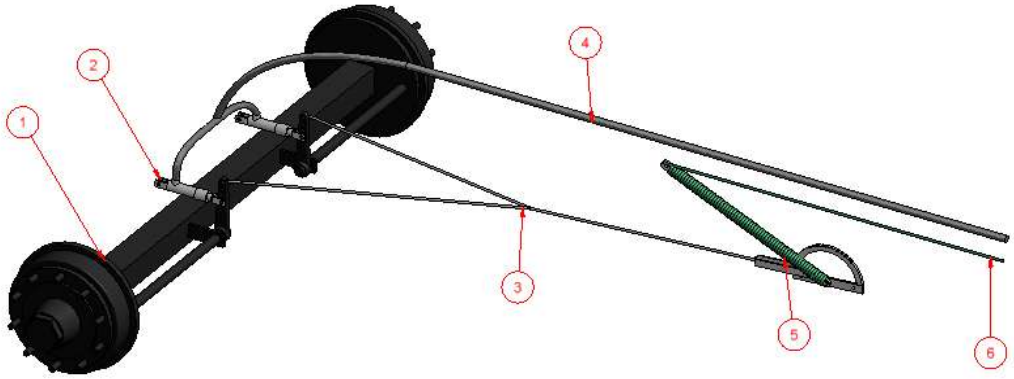
- When stationary, the hand brake should be used (manual). When moving, it's the hydraulic or pneumatic brake which is used. The third system is a back-up systyem in the event of trailer separation (cord between the hand brake and and a fixed point in the tractor).
- Connect the security cord in the event of trailer separation; this activates the parking brake. Check for good cable tension to the connecting rods at the outset of each journey.

PROCEDURES

Any trailer whose load bearing weight PTAC exceeds 1.5 tonnes is automatically equipped with assisted braking. This can be connected to the tractor's braking system.

Hydraulic braking circuit :

- Install red hose (4) on the pressure outlet « BRAKES» on the tractor.
- Ensure full functioning of the command box and the absence of leaks from the couplings. Braking pressure : 100 to 130 bars.

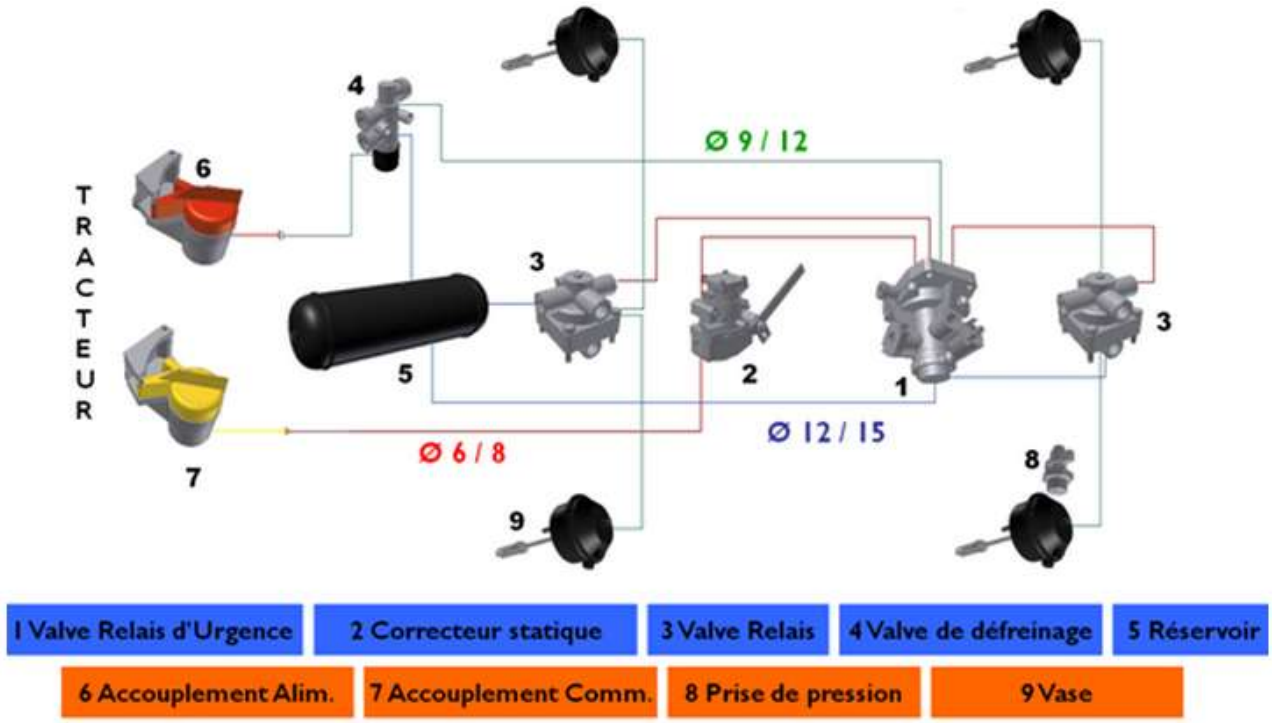


Repère	Element	Function
1	Brake drums	Ensures braking
2	Brake jacks	Activate the braking pins when in motion .
3	Brake cable	Makes the connection between the handbrake and the braking pins
4	Pipes (connected to the tractor)	Lubricates the braking jacks
5	Stationary brake	Hand brake
6	Trailer release cord (attache to a fixed tractor point)	Puts on the hand brake in the event of trailer separaration

Pneumatic braking circuit

Element	Function	Illustration
Emergency relay valve (ERV)	Ensures proper service braking as well as automatic trailer braking in the event of the trailer braking or the lowering of pressure from the feed pipes.	
Static corrector (optional)	For regulating braking pressure, and therefore braking power, in accordance with the vehicle's state.	
Relay valve (optional)	Allows constant piloting of the command circuit.	
Brake release valve	Allows the release of the trailer service brake after loosening the automatic brake caused by uncoupling the connecting pipes.	
Reservoir + purge	Air supply tank under pressure. Opening it allows moisture in the circuit to be released.	
Command coupler head (yellow)	Allows braking commands between the tractor and trailer.	
Command coupler head feed (red)	Ensures a constant feed between the tractor and trailer.	
Tank	Ensures service braking at the front, and stationary braking at the back through the double spring.	
Pressure points	Allows circuit pressure to be controlled	

N.B : Braking can also be mixed(pneumatic hybrid hydraulic assembly) (Assembly prohibited above 40 km/h)



Pneumatic braking on two axles at (example) (40 km/h)

Installation of the drive shaft:

PROCEDURE

. All transmissions should be covered by a protector in a good state of repair

. Any protector found below these standards should be replaced immediately

Do not forget to install protectors and to fasten them by their chains.

Never start up power take-off without the required protectors being in place.

. Wearing loose fiting clothing can be a source of accident.

. At the time of first use, it may prove necessary to adjust transmission length. To do this :

- Ensure the correct length of drive shaft tubing.
- The tubes must not hit against the crossbeams during extreme turning manoeuvres
  Minimum tube casing 500mm

There are several types of security on the tubes; traction bolt shearing or cam shaft security. In the event of track bolt shearing the bolt must be replaced with the same type and quality as the original one. Replacement with a more solid bolt will cause the vehicle to deteriorate.

N.B : For starting off en route, the use and maintenance of (primary and secondary) transmission) please refer to the specific notices supplied with the machine by the manufacturer.

Electrical Connections :

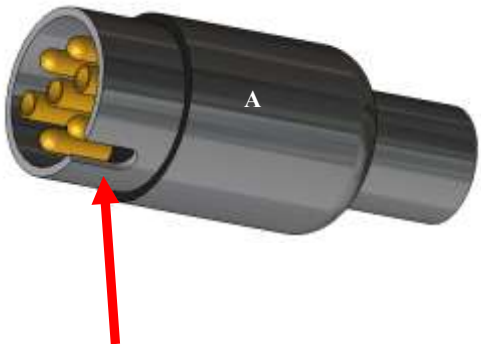
1- LIGHTING

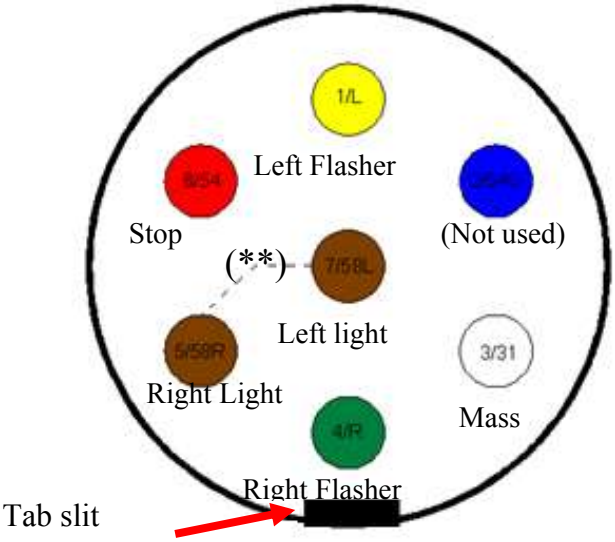
The vehicles have a regulatory and standardized lighting system. It is mandatory to connect it to the electrical system of the tractor.

PROCEDURE

. Never start without having checked the functioning of vehicle lighting system: your safety and that of others depend on that. Do not leave wires pending near the transmission.

- Connect the multi-spindle socket (A) without forcing and in correct direction, the tab should be in the slit.





(**) Attention : Our mounting system respects the standard in force regarding the independency between the right and left lights. Depending on the compliance of tractor, a bypass on front socket might be necessary.
If this is the case : Rolland can't be held liable for the failure of lighting circuit and the eventual consequences. This bypass is of client's responsibility.

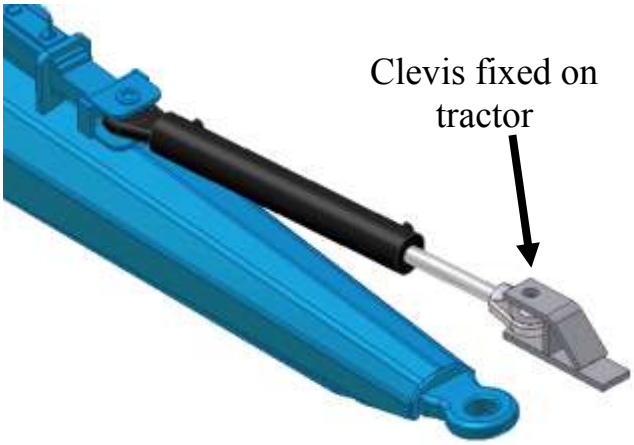
2- OPTIONAL EQUIPMENTS

- Connect the 3-pin plug (B) without forcing, the direction is indicated by flat pin.
- This plug is present in all the equipped machines: electronic boxes, weighing and centralized greasing system, or even in control of door opening, for example.

Installation of the auto-pilot system:

The auto-pilot axle requires the installation of a pilot cylinder. According to your trailer, you may have to mount one or two clevis mountings in your tractor. These clevis mountings aren´t warranted by ROLLAND. According to the brand and model of the tractor the positions of clevis mountings may vary.

For one auto-pilot axle



For two auto-pilot axles

When the tractor is fully blocked, check that there is approximately 20mm margin at the piston rods of rolling i.e. they are not completely *in* or *out*.

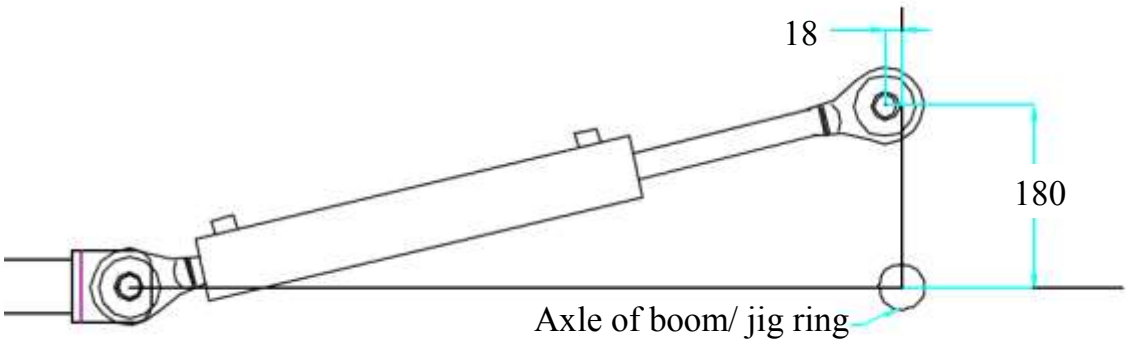
Mounting the clevis:

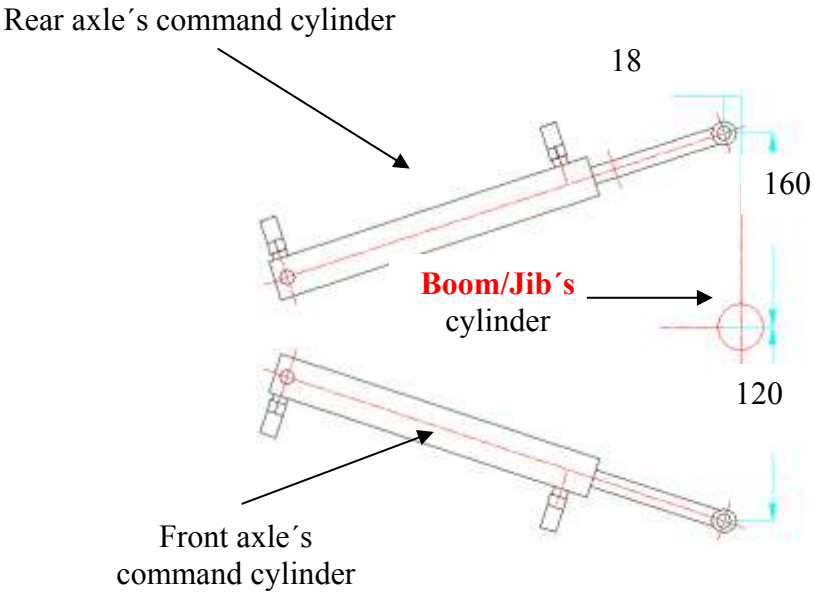
The axle of the ball cylinder must have a minimum distance of :

- 180 mm for a simple cylinder mounting
- 120 mm / 160 mm for a double cylinder mounting

The ball cylinder´s axle must be remote:

- 18 mm of the **boom/jib´s** axle.



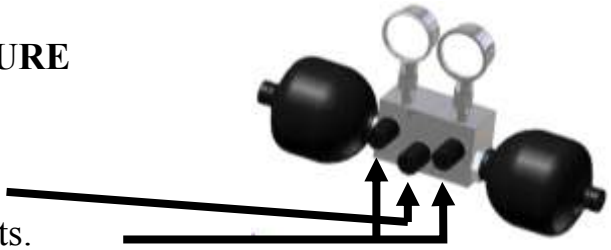


Installation of the cylinder:

To do this operation, we can´t have any pressure in the circuit. If your machine has only one cylinder, the automatic lock system enables its easy implementation. Simply attach the cylinder to the tractor and slowly steer for blocking. However, if your vehicle has the two cylinders on the jib, put cylinders up manually.

The adjustment should be made with the tractor and trailer hitched aligned, straight wheels, cylinder attached. It is recommended to drive straight ahead for about 10 meters. Make sure the handbrake of the tractor is pulled.

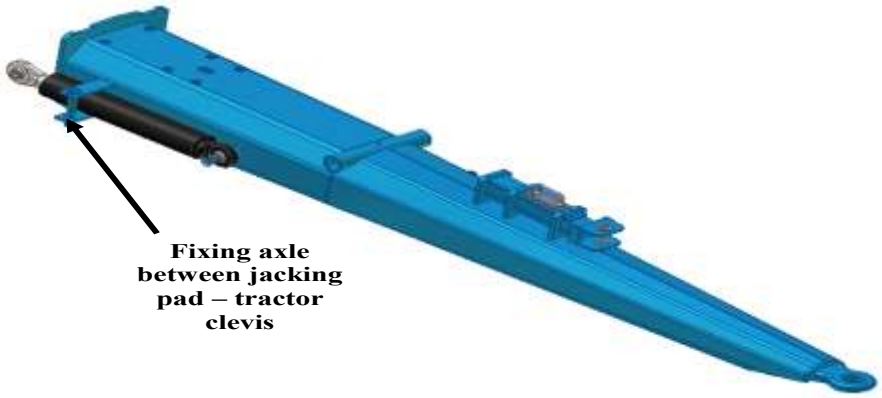
PROCEDURE



- Close the selector valve of the circuit
- Open the isolating valves of the different circuits.
- Using the manual pump, increase the pressure of the circuits
  - Between 20 and 35 bars maximum for mounting of a simple cylinder with a diameter of 40/80(the manual pump's valve must be closed)
  - Between 20 et 35 bars maximum for the mounting of a double cylinder
- When the pressure stabilizes (it is tolerated a deviation of 5 bars) close the valves of the circuits.
- To re-use the hydraulic jack, simply re-open the selector valve. (make sure the auto-pilot valves are closed)
- To decrease the pressure in the circuit, you must close the selector valve of the circuit, open the valves of different circuits and open the valve on the hand pump. The oil then returns to the pump.

About steering and auto-pilot axles

Every auto-pilot can be used in a steering mode. To do this, simply place the cylinder on the side of the jib in the space provided for this purpose. The fixing axis of tractor cylinder-clevis is used to lock the cylinders. The pressure in the circuit must be removed (check the manometers). To lock the steering axle, **a pipe marked in yellow-green colour is placed in the nose of the pipe holder.**



In the auto-pilot (or forced) mode, it is forbidden to use the flexible locking of the steering axle because it may cause strong damage to the hydraulic system. So it is highly recommended that in auto-pilot mode, you don´t connect this flexible hose (marked by a striped yellow and green mark) to the tractor to avoid any risk of error. Before to steer ensure that nothing is blocking the wheels.

- The axle's hydraulic circuit should be totally free of air.
- Do not exceed recommended pressures during the circuit pressurizing process because the membranes of nitrogen balls may be damaged and no longer fulfill their function.

Regarding the tracking axles, a flexible pipe marked in yellow-green colour is placed in the nose of flexible pipes holder.

. On the road with tracking, it is recommended to block the axles in order to avoid any accident linked to an offset of the trailer, particularly when your vehicle is charging.

5- Normal Use + Counter-Indications

Above, representation of explicit pictograms present in the vehicles representing the different risks (risk of crushing, risk of falling, etc…)

Parking:

When it comes to park the vehicle, the respect for certain rules is mandatory for the user safety as well as for having a vehicle ready to use when necessary.

- It is recommended to store the vehicle in a covered place
- Vehicle must be empty on his stand
- Brakes are tightened
- Parking surface must be flat (slope of 10º as maximum) and stabilized
- Hydraulic plugs reconnected to the flexible holder
- Greasing is done (see chapter maintenance)
- Greasing of the exit cylinder rods

Loading:

Any damage due to an overloading would in no case been covered by the manufacturer's warranty.

. Never exceed the vehicle loading capacity.
. Verify there is a good distribution of the load in the vehicle.
. Verify load balance, its stability as well as vehicle manœuvrability.
. Take care that during loading, no hard body (stone, pieces of wood, steel, etc.) is loaded in spreader, it might cause damages.
. When used during the freezing period, verify the mobility of conveyor rods before loading.

Transport

The spreaders are conceived for circulating at 25 km/h or 40 km/h. They are approved for the road.
Respect the Highway Code.
. Never leave without having checked the vehicle lighting system: your safety and others' one depend on that.
. Verify tyre inflation (see chapter Maintenance). Hillside moving of spreader can be dangerous. As far as possible, move on the direction of slope. Otherwise, avoid moving with a loading up to 50% of nominal load.
For a maximum safety, it is crucial not to exceed a gradient of 15% (obstacle, rut, and ditch).

Option of mileage indicator (odometer).

This odometer is configured for a tyre, type 305 70 R 19.5. If your vehicle is equipped with different tyres, a correction of odometer display is necessary in order to obtain a correct and exact distance.

Examples of corection values :

Tyre Designation	*Circumference*	*Diameter*	*Correction Value*
18/22.5 (445 65 R 22.5)	*3505*	*1130*	*1.26*
500 60 R 22.5	*3705*	*1180*	*1.33*
550 60 R 22.5	*3862*	*1230*	*1.38*
600 55 R 26.5	*4176*	*1330*	*1.5*

Real Value = read value x correction value

For any other dimension, please see on page 40.

Spreading

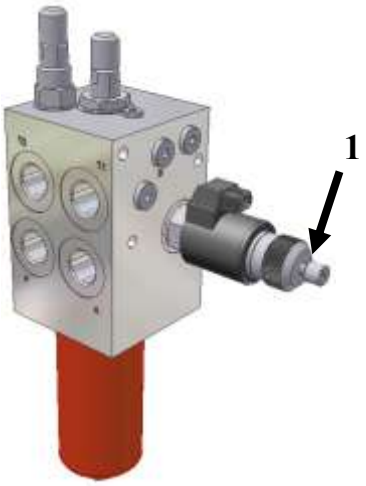
Put the Power Take- Off moving without accelerating and bring it to normal speed of 1000 rot. / min.
Every spreaders ROLLAND are studied to operate in this way except in particular case (540 rot. /mn). In every cases, the scheme to be used is specified in a stitcher in the pipe holder nose in the front of vehicle.

If the quality of spreading is not satisfactory, many things might be the cause: look for the cause in the following points:

- Adapt the settings in relation to manure.
- The loading (irregular, not homogeneous).
- The power of your tractor (too weak).
- The rotation speed of the Power Take-Off (too slow – control the scheme) Check the flow.

In case of tamping of manifold or table, invert the advance of moving background to get free the manifold, consign the machine (see § 1-1 on page 3) and manually remove material blocking the machine from the rear (see page 32). To do this handling, the use of Individual Protection Equipment is mandatory. (gloves, glasses, helmet,…)

Regulator can also be used in manual mode in case of breakdown. To turn into manual mode, you should turn the thumb wheel clockwise. Since the tightening of thumb wheel, the regulator goes to manual mode, then it is just necessary to adjust the settings according to needs.
To return to electric mode, you should only loosen as much as possible the thumb wheel.
If there is a failure of distributor or control box, you can connect the flexible pipes that come out of distributor directly to the tractor.



EACH INTERVENTION IN THE REGULATOR (REGULATION OF MANUAL MAINTENANCE FOR EXAMPLE) SHOULD BE DONE WITH MACHINE ABSOLUTELY STOPPED. (TRACTOR ENGINE TURNED, KEY OUT OF IGNITION). FOR RESTART, CHECK §1-2 page 3).

SAME INSTRUCTIONS TO BE APPLIED IN CASE OF MANUAL REGULATOR (SEE PAGE 12). IN ADDICTION THE REAR GLASS OF THE TRACTOR CABINET SHOULD BE IN CLOSED POSITION DURING THE MACHINE OPERATION.(SEE GENERAL SAFETY INSTRUCTIONS ON PAGE 3)

6- Adjustements

<u>Preamble</u>: Any adjustment must be made with machine unplugged (see §1-1 on page 3)

<u>Adjustments of mechanic jib:</u>

The jib adjustment enables to have a right box in accordance with the coupling height and to have a greater flexibility as well as a maximum load transfer to the rear axle of the tractor.

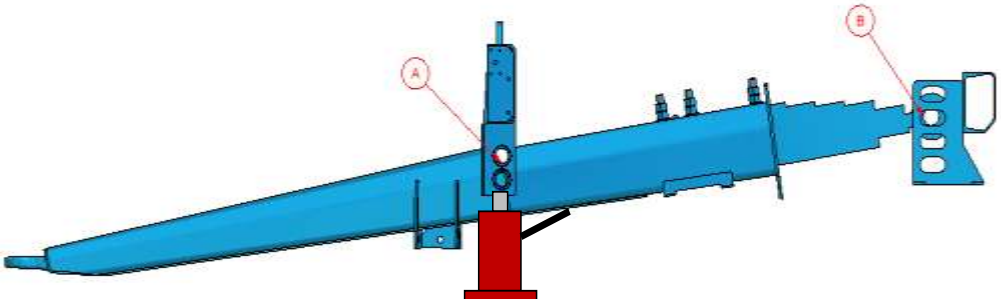
Note: For the first operation, the concessionaire will carry on the jib adjustment.

PROCEDURE FOR ROLLMAX

. Handle it with the vehicle empty.
. Operate on horizontal and stable ground.
. Make sure the parking brakes are tightened. (tractor and trailer).
. Install the safety pin above the tractor coupling ring

- Put the machine in a levelling space with a jack (lifting capacity: 5T) placed in front of chassis.
- Lay down jib adjustment axle. (signal B).
- Position the jib in a way that spreader is horizontal when he is coupled to tractor.
- The jib position will be adjusted into the nearest upper hole. Thus, the spreader will be slightly pitched up.
- Put again the axle in place as well as its pin.
- Remove the jack.

The upper hole is used for big diameter wheels; the distance between each hole being of 7cm.



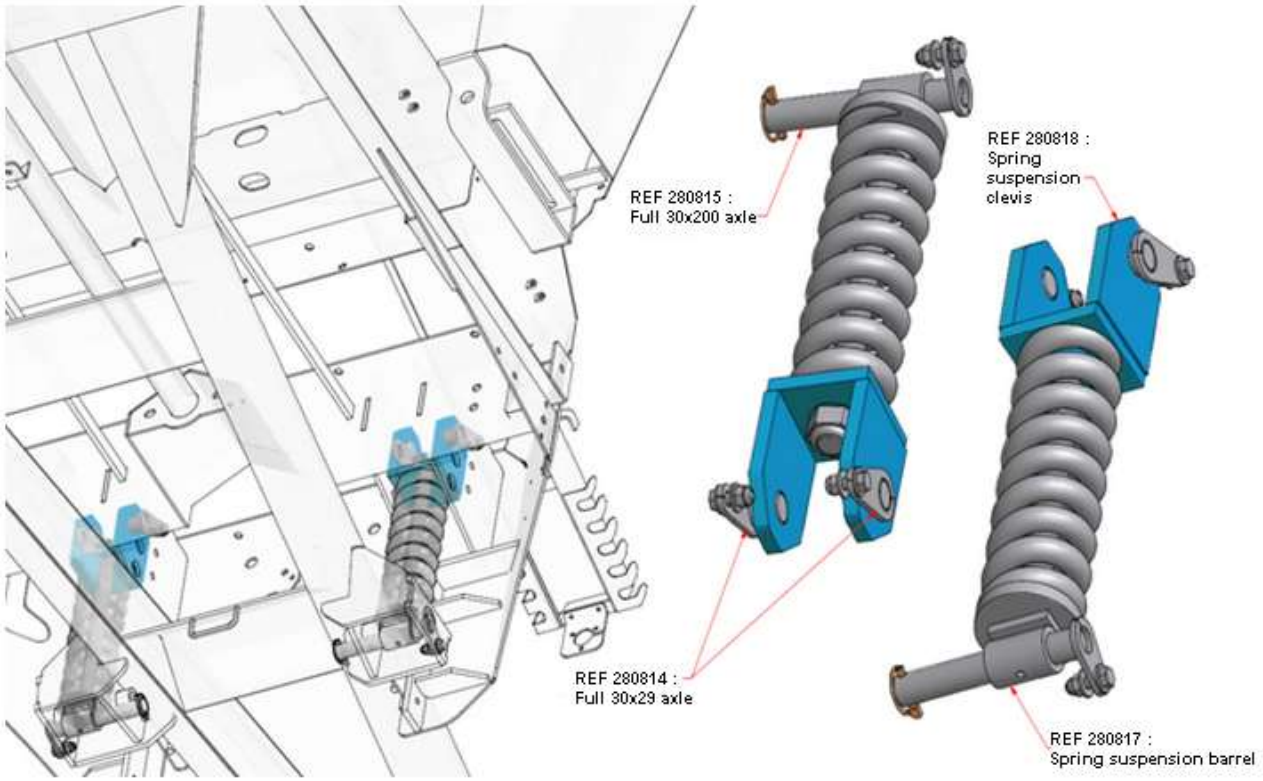
Jack 5T

PROCEDURE FOR ROLLFORCE

. Handle it with the vehicle empty.
. Operate on horizontal and stable ground.
. Make sure the parking brakes are tightened. (tractor and trailer).
. Install the safety pin above the tractor coupling ring

- Put the machine in a levelling space with a jack (lifting capacity: 5T) placed in front of chassis.
- Lay down jib adjustment axle (reference 280814).
- Position the jib in a way that spreader is horizontal when he is coupled to tractor.
- The jib position will be adjusted into the nearest lower hole. Thus, the spreader will be slightly pitched up.
- Put again the 4 axles in their place as well as their tightening pins.
- Remove the jack.

Note: if there is a need to change the stiffness of jib suspension, the pre-stressed spring can be changed by screwing or unscrewing the nut which is threaded into the end of the rod through the spring.



7- Servicing and maintenance

In order to execute the servicing operations in good conditions, please respect the following safety rules:

- **Block the wheels.**
- **Tighten the mechanic brake.**
- **Remove the vehicle from its loading.**

1. Verifying of the braking system (every 6 months)

a- Parking and rupture brake

- Verify the good tension of parking/ rupture brake.
  The parking brake lever should not be able to evolve in the last ¼ of its stroke. If this is not the case, re-stretch the cable.
- Procedure for cable stretching :
  - Put the lever of parking brake in rest position and be sure of the vehicle immobilization by blocking it in the front and in the back of the wheels.
  - Unfasten the rope clamps from one side
  - Re- stretch the cable
  - Fasten again the rope clamps
  - Do again a test
  - If the brake rod (see fig1 on next page) require too much angle in order to enable an efficient braking, allow for sealing compensation in the trimmings (see next point : b)

b- Service Brake

- Verify the good condition of brakes cylinders, make sure they are not full-stroke and control their fixation as well as the one of the retracting springs (the cylinders should not get off more than two thirds of their maximum stroke, that's to say: 100mm
- If it is not the case, we must allow for sealing compensation in the brake trimmings.
- To do so :
  - Put the lever of parking brake in rest position and be sure of the vehicle immobilization by blocking it in the front and in the back of the wheels.
  - Remove the circlips on end cam brake (see fig1 on next page)
  - Detach the link rod cam.
  - With a pin spanner for example, make a couple in the brake cam to simulate a braking movement.
  - Reposition the link rod cam in this position.
  - Reposition the circlips.
  - N.B: If your vehicle is equipped with brake cylinders with automatic sealing compensation, the operation of trimmings sealing compensation will be carried out automatically.

Control the wearing of trimmings through the hole provided for this purpose.

- If trimmings are out of use or unreliable, contact your seller ROLLAND.

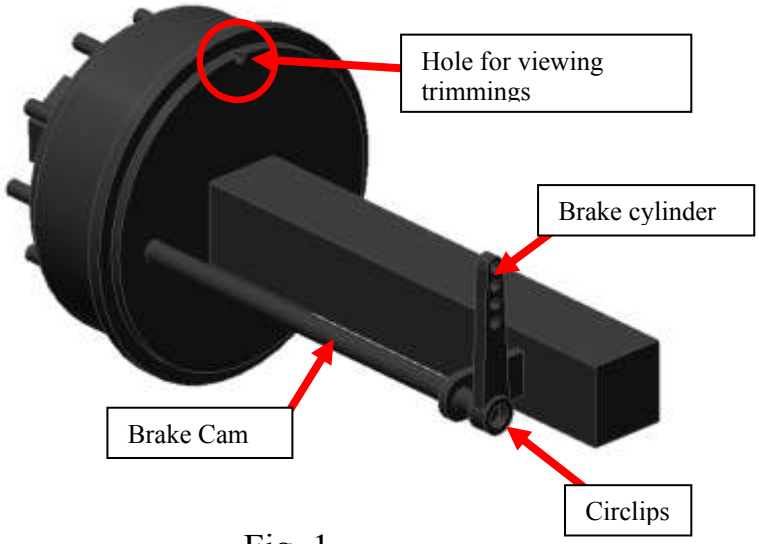


Fig. 1

Fig. 2

c- Checking wheel hub bearings:

Bearings are wearing pieces, their lifetime depend on their work, their loading, their speed and above all on their adjustments and their greasing.

- To control the set of wheel hub bearings, you have to lift the axle (vehicle stopped (see §1-1 on page 3) and empty) in a way that the wheel doesn't touch the ground anymore (need of a 5 T capacity jack with plumb under the axle) and grab the wheel in right and left sides trying to make it move.
- Control after the first operation.
- Every two years, provide for the control of conic bearings adjustments. An excess of backlash can deteriorate the bearings seats and braking devices.

d- Control of hub caps :

- For fitted caps, visually control that they are well pressed to the bottom in the hubs.
- For the screwed caps, verify that they are in correct place in the hub front side.

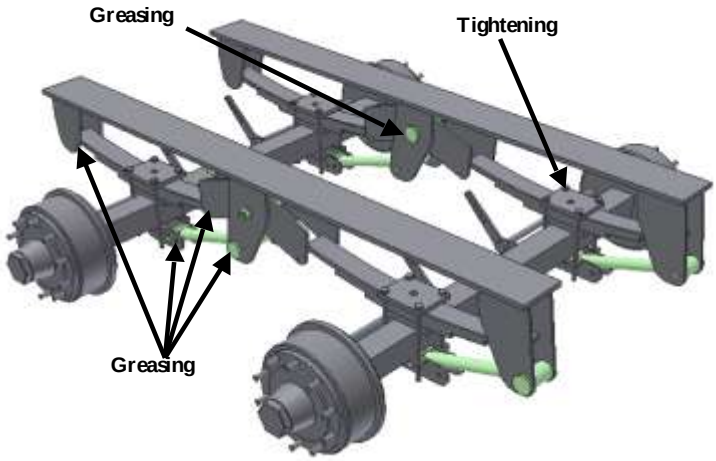
2. Maintenance of Baring :

The maintenance operations on bearings should be done by a qualified and competent staff, with adequate tools and in a specialized workshop authorized by the vehicle manufacturer.

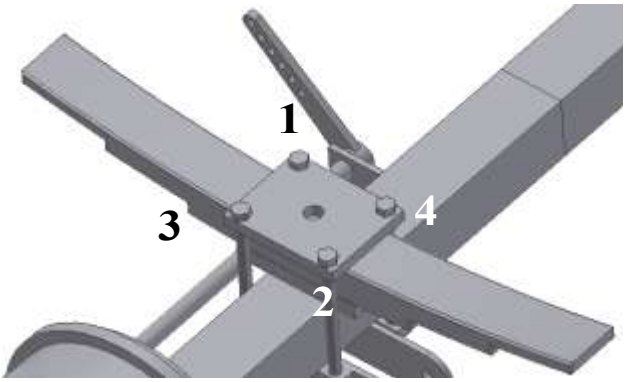
General Verifying

Rolling ½ tandems case, rods tandem

- Verify and tighten all the nuts of axles coupling flange and the lifting rods if there are any (following the order on sketch 2)
- Grease the different articulating axles as well as the spring ends in their slide conveyor. (Sketch 1).



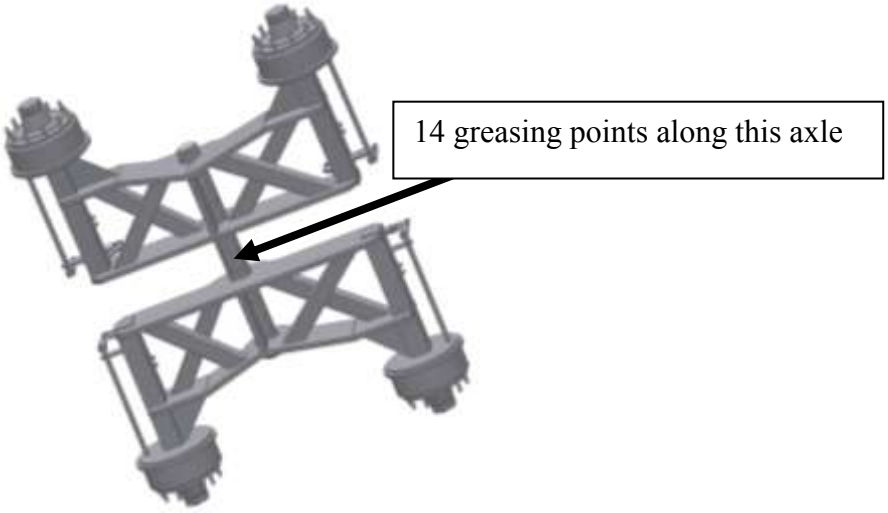
Scheme 1



Scheme 2

Case of balance rolling or Rollfast

- Check there is no backlash in the balance axle.
- Grease the different points (14 for each balance axle or Rollfast)



3. Cleaning and lubrication:

Proceed with profound cleaning of the spreader after each use. Then continue with a general lubrication of the body (spray oil) and check the brakes. Check the machine for all cleaning and lubricating operations (see §1-1 on page 3)

Each 10 hours:

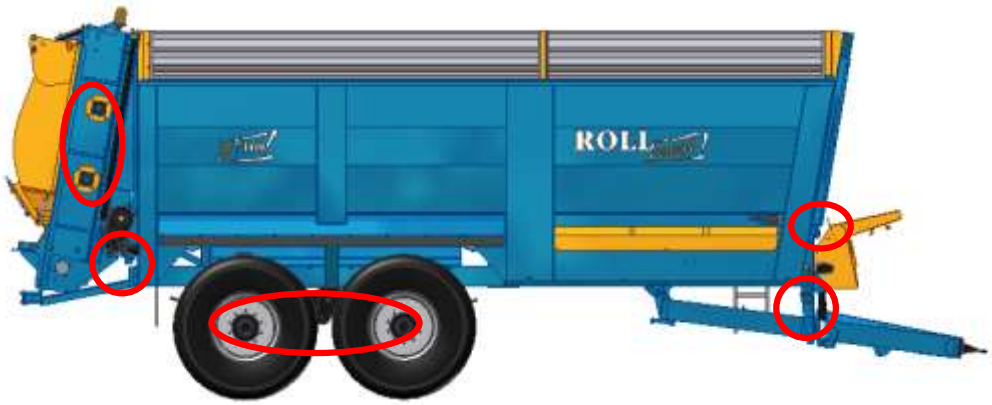
-**Greasing of the rug AV and AR nuts**

- Lubrication of the Power Take-Off transmission

Each 50 hours:

- Lubrication of rolling, jib and bearings of the shaft 1-3 times / year (following utilization)
- Lubrication of the scraper bearings (on the right of TCE, up on the vertical (in the upper crankcase)). Provide adequate means of access (Cf. p.32)
-Lubrication of the bearings of transmission shaft

The lubrication points are represented by red dots on the diagram below. The oil of different mechanical housings (gear reducers, gearbox and bevel gears) should be replaced every year or every 200 hours in accordance with the amounts shown in the "maintenance of mechanical housings." The recommended oil is SAE 140.



Instructions for cleaning

Caution, this operation requires special precautions in addition to those mentioned throughout this document (pages 3, 17, 20 and 26 in particular) and in this chapter.

You should:

- Ensure that the machine is stopped until the emptying of the device is complete.
  - Use the side ladder for this purpose
  - Attention, it isn´t a mean of access to the interior of the vehicle.

- If, however, an intervention in the interior of the body is necessary, an apparatus (not supplied), of a scaffolding kind, must be implemented to access with railings and other precautions. In general, all the interventions above the ground must be made with the appropriate means of access.

- All interventions, in the rear of the machine, must be done with machine stopped, power disconnected and using individual protection equipment (glasses, gloves etc..) recommended for the use of specific tools by their manufacturer, by example:
  - The pressurized water spear for washing the screws and bearings
  - A cutting tool to cut the strings
  - Etc.

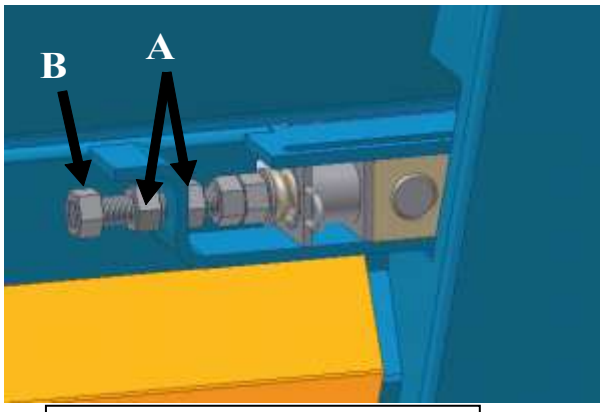
- The rotation of the **rug** as well as all other functions (door, hood) is sometimes necessary. All our machines allow these functions independently of the Power Take- Off rotation. This ensures the non-rotation of the moving parts especially with the "independent central" option. Indeed, in this latter case, a connections kit comes with the machine (see pages 10-13) to allow a supply of **rug** directly by tractor oil.

4. Adjusting the rug tension/voltage:

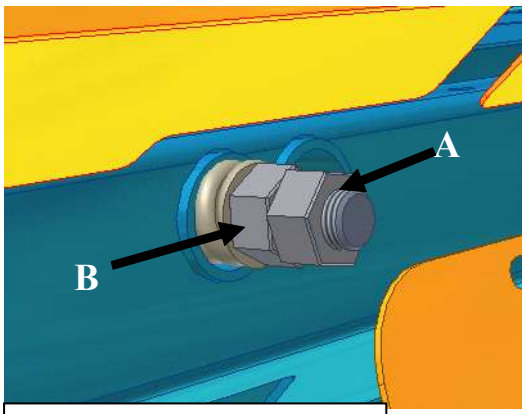
This adjustment must be performed every 50 hours of use and checked every 10 hours (see NOTE below). It prevents premature component wear and contributes to the maintenance of the chains. To perform tension of the 2 chains (Rollforce) there are 2 tensioners (A) located outside of the box. To tension the rug 4 chains (RollMax) there are 2 tensioners (A) outside and two other tensioners (B) in the middle.

- Loosen the lock nut A
- The tension of the rug is made by compression of the spring by turning the nut B
- A proper tension translates into a space of 5 to 10 mm between the rug first bar and the guide plates under the spreader (rear).

Tension control to be performed in first using, after 10 spreaders, after 50 spreaders, then every 10 hours (make the tension if needed)



Side tensioners
(in Rollforce and Rollmax)

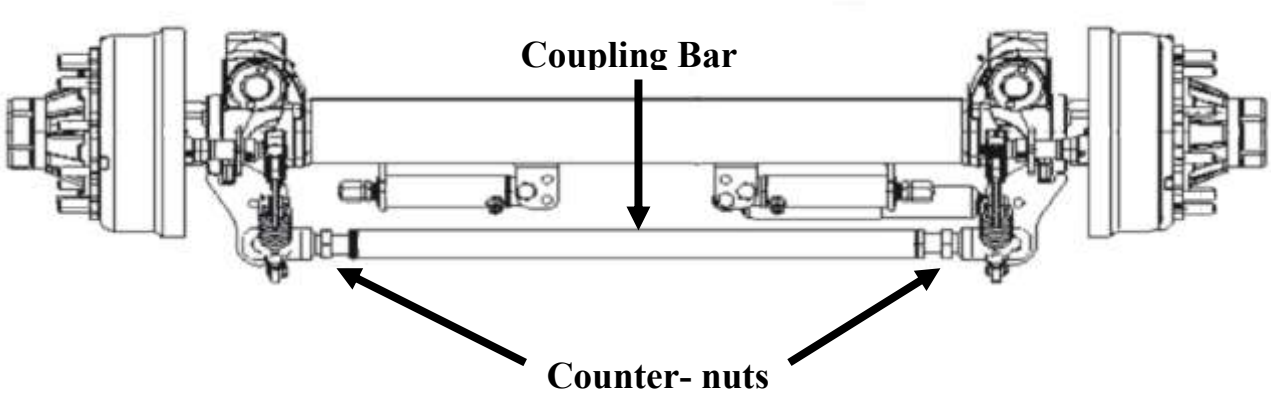


Middle tensioners
(only in Rollmax)

5. Steering axle (Rollmax option) :

Checking and adjusting the parallelism

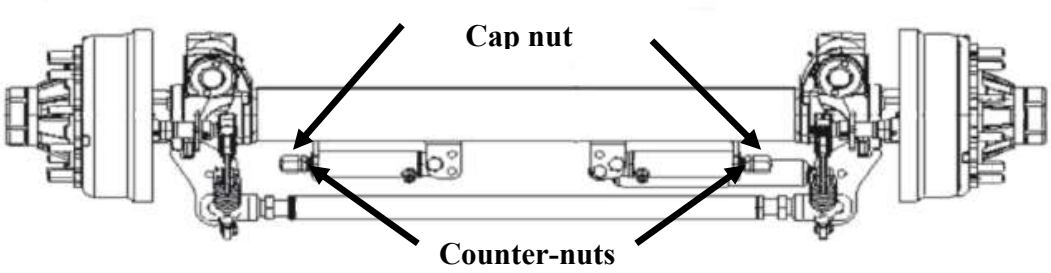
- Stop the vehicle, the steering axle must be aligned, the locking cylinders back on a flat horizontal surface.
- Measure the distance between the front and rear wheels and the steering axle. We need to find the same value.
- If this is not the case unlock the 2 lock nuts of the coupling bar and rotate it in order to find the same distance to the front and to the rear.
- Strongly lock the lock nuts.



Adjustment of the locking cylinders

Regularly check the lock nut against the blind and nut. After the parallelism, adjust locking cylinder as follows:

- Loosen the lock nuts
- Lock the blind nuts.
- Apply pressure in the cylinders and maintain it.
- Unscrew the lock nuts to put them into abutments
- Screw vigorously against the screw nuts to lock the adjustment.



6. Regulator and hydraulic central maintenance:

- Stop the vehicle (see §1-1 on page 3)
- Check the oil and seal the reservoir. Think about draining the oil and change the filter regulator every year. To change the filter, unscrew the bowl guard (red). Clean the inside of the bowl with a cleaning agent (do not use cloth or paper towels), replace the filter and then put the bowl.
- Check the multiplier housing oil level. Perform a first emptying after 50 hours of use and every year minimum.
- Check the condition of the hose.

7. Rug Control :

- Stop the vehicle (see §1-1 on page 3)
- Check the wear nuts and bearings, lubrication is required (greasing).
- Check the condition and attachment of the rug bars.

8. Transmission maintenance:

The maintenance of this organ is essential for your safety.

- Stop the vehicle (see §1-1 on page 3)
- Check as often as possible the protection of the gimbal.
- Lubricate the various components of the Power Take-Off and the bearings of the shaft (periodicity page 31).
- Check the wear wedges and greasing on the transmission shaft.
- Also grease the Power Take-Off at the ends of angle transmissions.
- To optimize the operation in direct tractor, free return without brake (push-pull) is recommended.
    - Direct tractor output approximately 60L/min for a manual adjustment, MTKA type, if not there is an overheating risk and possibility of engine breakage.
    - Tractor output approximately 80L/min for a proportional adjustment with electric command on cabinet.
    - Every year, draining the oil from the plant, change the filter regulator and change the strainer pot of the central.

ALL WORK AT EACH ELEMENT OF TRANSMISSION (SHAFT, UNIVERSAL JOINTS, BEARINGS,...) MUST BE MADE WITH THE MACHINE COMPLETELY STOPPED (STOP THE TRANSMISSION AND ENGINE TRACTOR). REMOVE THE KEY.

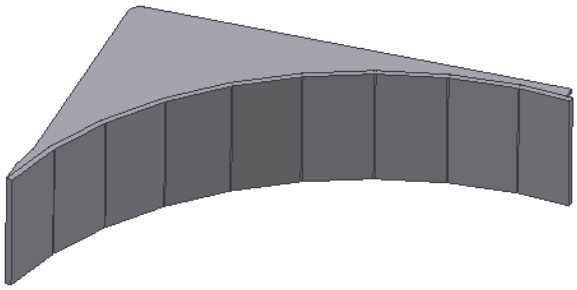
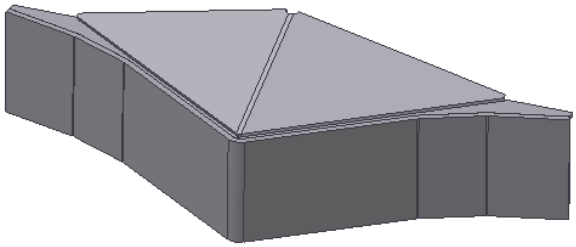
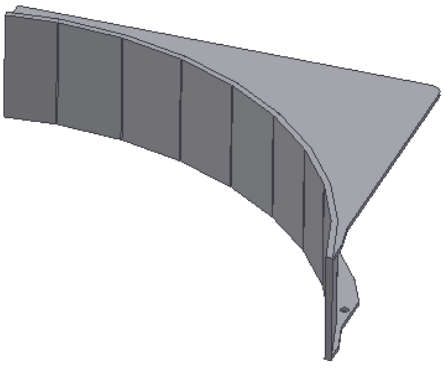
9. Replacement of wearing parts:

Spreaders frameworks are provided with wear parts that must be replaced regularly, there is no specific duration of lifetime for these parts as they wear out faster or slower depending on the type of manure or as settings made by the user.

Element	Quantity (per scraper or per disk)	
wearing pin disk 	3	
Shovel in stainless steel 2 types of shovels: left and right  	C8	15
	C10	19
	C11	20
	C12	20
	C13	22
	C22	21
	C23	19
	V17	21
	V21	27
	V25	34
	TCE	15
Wearing cam Rollmax 	2	
Wearing cam Rollforce 	2	

The TCEi spreading tables can have an EDT finishing:

- Base thickness of table 10mm
- Rounded table and removable reinforced boxes
- Equipped with 3 removable pale enhanced

Element	Quantity
Outer wear piece of left table TCEI EDT   **Attention to mounting direction**	1
Inner wear piece table TCEI EDT 	1
Outer wear piece of TCEI table right EDT 	1

10. Maintenance of gear boxes :

Record machine details (see §1-1 of page 3)

Replace the oil in the différent mechanical gear boxes annually or after every 200 hours service making use of SAE 140 in respect of the following quantities :

Setting	Box (for when in operation)	Oil Quantity (in litres)
V17	Middle	1.2
	Left	2.2
	Right	2.2
V21	Middle	1.2
	Left	2.2
	Right	2.2
V25	Middle	1.2
	Left	2.2
	Right	2.2
TCE	Middle	1.2
	Left	2.5
	Right	2.2
	External angular gear	1.2
	Cog wheel (x2)	0.8
TCEI	Middle	1.8
	Left	1.5
	Right	1.8
	External angular gear	1
	Cog wheel (x2)	0.7

Belt	Belt gear box (right or right and left)	2.8
Central hydraulics	Gearbox pump box	0.3
		Visco 400

11.Wheels and tyres :

Regularly check wheel clamps and tyre pressure

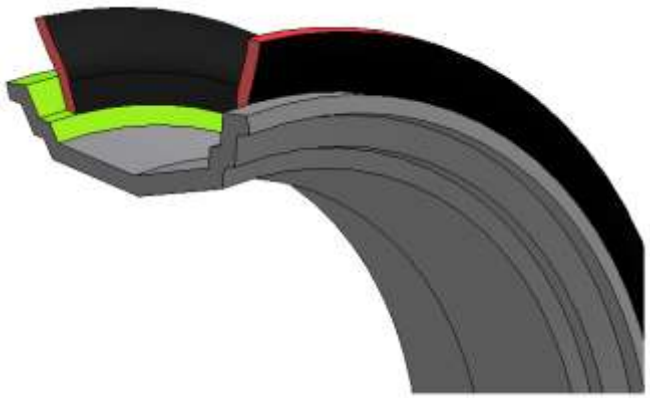
Inflation

Correct tyre pressure gives optimum traction, comfort and performance.Furthermore the tyres will have a longer active life and surfaces with which they come into contact will suffer less damage.

We strongly advise against :
-Under-inflation of tyres which can deform the shape and entail the vehicle being put out of service.
-Over-inflation, which lowers surface contact leading to a loss of traction. In addition the tyre body is more easily susceptible to bumps.

Assembly

- Assemble the tyres on the rims intended for their positioning.
- Use only clean rims in a good state of repair, and work on clean surfaces.
- Use only appropriate tools for tyres and rims.
- To facilitate assembly and disassembly, lubricate the bases (green) and the raised edges (black) with a suitable product, following the outline below.



- Fill a new tyre tube with new air. Use an inner tube in keeping with the spread of the tyre .
- After mounting a tyre, ensure it is properly centred on the rim : if this is not the case, then inflate, deflate and reinflate the tyre until exact centring has been achieved. Always bear in mind the maximum tyre bead installation pressure on the rims of 2.5bars (35 p.s.i) pressure.Then adjust to service or out of service pressure.
- When transporting engines by road, rail or ship, it is necessary to inflate tyres to 2.5 bars (35 p.s.i) in order not to negatively impact mooring systems.

Characteristics of tyres available with Rollforce :

Type	Service Pressure	Max.load at 40km/h*	Dimensions	Correction value of the hubometer
18 4/30 A324 Alliance	3.2	4080	1550x467	1.68
18 4/34 A324 Alliance	4.2	4200	1632x467	1.77
18 4/38 A356 Alliance	4.8	6270	1733x516	1.88
23 1 R26 Prostor	2.8	5000	1605x587	1.74
23 1/26 A347 Alliance	2.8	5030	1605x587	1.74
620/75 R26 A375 Alliance	3.8	6325	1595x625	1.73
650/60 R 34 Els Nokian	4	9400	1644x650	1.78
650/65 R 30.5 A380 Alliance	4	9660	1623x650	1.76
620/75 R 30 Michelin	4	5600	1710x604	1.85
650/75 R 32 A360 Alliance	3.9	7245	1793x645	1.94
650/65 R 26.5 A360 Alliance	4	9110	1520x650	1.65
580/70 R 38 A370 Alliance	3.3	5950	1817x577	1.97
650/65 R 30.5 Michelin Cargo	4	9660	1623x662	1.76
650/65 R 34 Els Nokian	4	9400	1645x650	1.78
650/65 R 26.5 A380 Alliance	4	9110	1520x650	1.65
710/50 R 30.5 Michelin Cargo	4	8840	1495x728	1.62

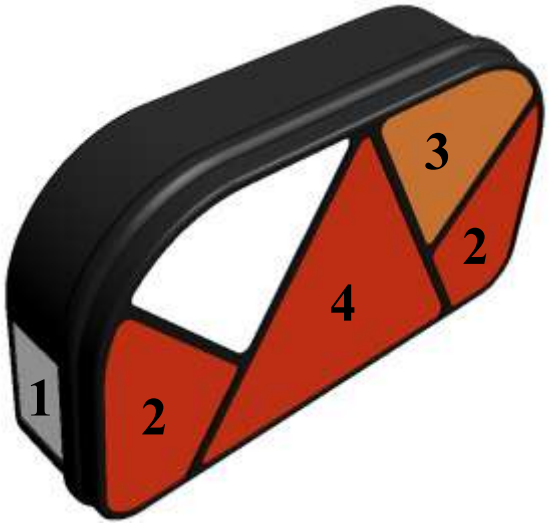
Available tyre qualities for Rollmax

Type	Service Pressure	Max.load at 40km/h*	Dimensions	Correction value of the hubometer
550/60 22.5 Diagonal/Divers	3	5300	1360x645	1.48
560/60 22.5 A380 Alliance	4	6710	1245x554	1.35
560/60 R 22.5 Nokian country	4	6300	1244x560	1.35
560/60 R 22.5 Michelin cargo	4	6290	1250x560	1.36
580/65 R 22.5 Nokian Country	4	7250	1300x580	1.41
600/55 26.5 16PL	4	6390	1348x626	1.46
600/55 R26.5 Michelin Cargo	4	6390	1348x626	1.46
620/60 R26.5 Nokian Country	4	7900	1400x620	1.52
600/55 R26.5 A380 Alliance	4	7450	1350x620	1.46
650/55 R26.5 A380 Alliance	4	7900	1360x645	1.48

**not all vehicles are set at 40 km/h ; there are also versions at 40km/h ou 25 km/h. In order to find out which setting your vehicle has : check the sticker on the rear left of the vehicle or the gallery sheet .*

12. Lighting :

When replacing a bulb, monitor the power level required and the filament connections.



Bench mark	function	colours
1	Number plate lighting	White
2	Lighting + stop	Red
3	indicators	Orange
4	Rear reflector	Red

N.B. : There is an option which exists to allow for protection of the lights against exhaust fume spirals. This way the lights remain in good condition and visible to those behind the vehicle on public highways. The principal is the following : protection is actively engaged as soon as the trailer is in motion.

ALWAYS ENSURE THERE ARE NO THIRD PARTIES PRESENT AT THE TIME WITHIN THE PERMITTED ZONE OF DEPLOYMENT.

8- Assembly

Flashing light assembly :

The flashing light can be fed by the pilot lights, in certain cases it can be fed independently with the help of a 3-way contact.

- If there is a pilot light feed connection: maximum flashlight power should be 21 watts.

Equipment Assembly (ROLLMAX Options)°:

These operations are in the hands of the dealer since he alone is trained and skilled in them. Means of access to the vehicle must be in place to guarantee the absence of risk, most notably with the chute.

PROCEDURE

- Having already grease coated them, instal the rear piles. Greasing makes assembly and disassembly easier since adjustments are optimised to ensure watertight assembly . On the rear mounted and installed piles , screw down the sheet metal on the rear-mounted piles (on the inside of the trailer box).

Means of access example for silo equipment assembly

- Assemble rear sockets and middle piles and then affix in place using the screws provided, .

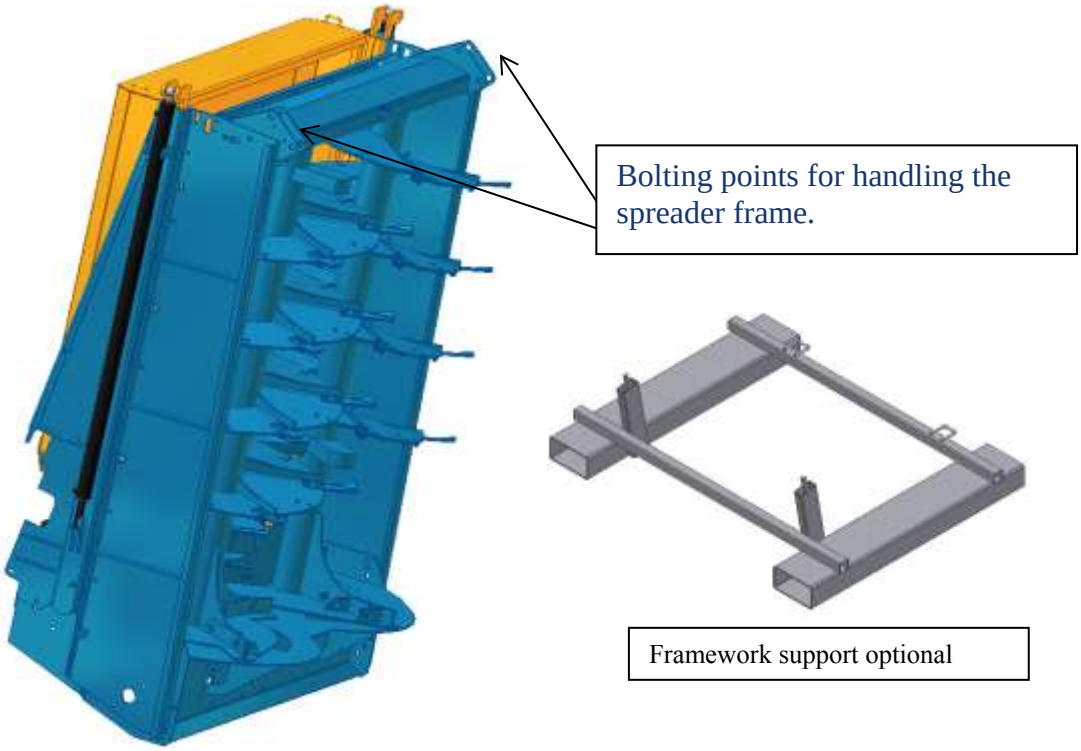
- Assemble rear sockets having followed the piles in front, and then secure them using the screws provided.

Procedure for silage door assembly (A Rollmax option)

Before installing your silage door, you will need to remove the framework tool from the your spreader. This operation is to be carried out by your ROLLAND dealer, who is the only trained and skilled operative who has the requisite tools.

Procedure for disassembly of the tool framework

- Disconnect the secondary transmission.
- With the aid of slings, fasten the framework to an overhead bridge crane (minimum capacity minimum 2,5 Tonnes for the slings and the bridge). Attachment points are outlined in the following diagramme. The weight of all sub-assembly sections is stated on stickers supplied.



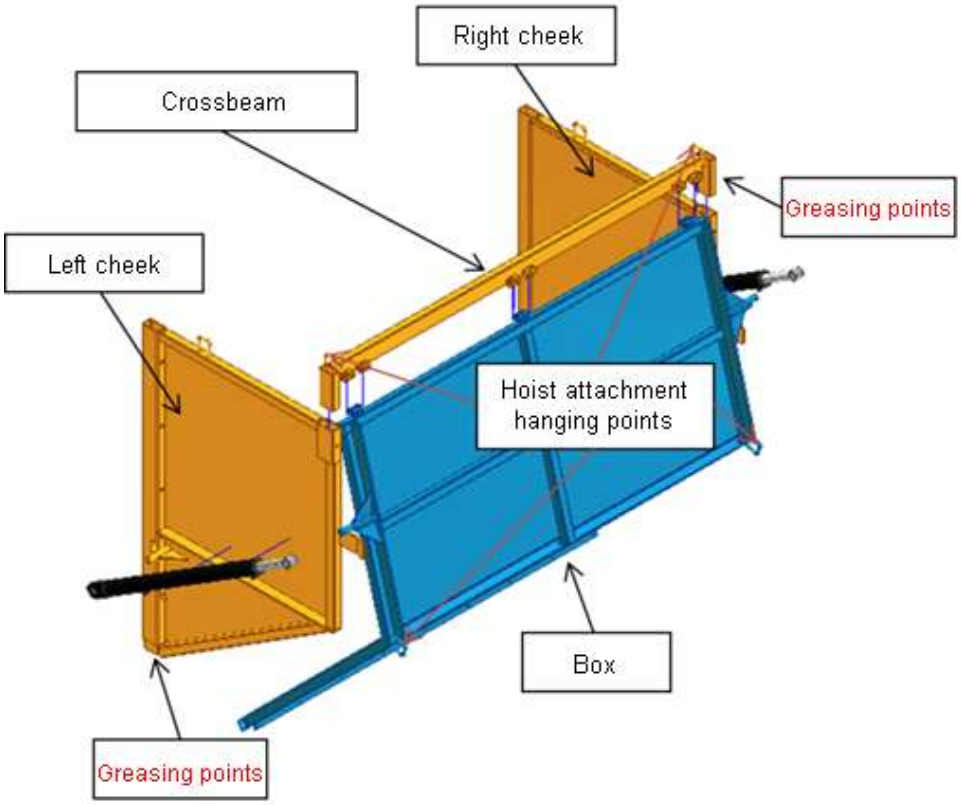
- Unscrew and remove all framework support fasteners on the box.
- Remove the framework using the overhead bridge crane and rest it on its supports. Fix it to its support using the nuts and strap(s) supplied, after having checked the clamps in order to lift off the slings.
- In the absence of framework support, place the framework flat on the floor on the hatch side.

Silage panels

- Having lubricated them with grease, assemble the piles. Greasing makes assembly and disassembly easier since settings are adjusted in order to ensure assembly watertightness. Attach to the spreader box with the screws supplied.
- Then install the basket (mass of around 80 Kg) using a hoist or loader. Bolt together using locking pins supplied.

« LOULOU » Hatch

- Having lubricated them with grease, assemble the cheeks. Greasing makes assembly and disassembly easier since settings are adjusted in order to ensure assembly watertightness. Attach to the spreader box with the screws supplied.
- On the ground, assemble the box with the cross section higher using the spindles supplied Make sure to put the locking pins in position in order to tighten up the assembled set section.
- By means of an overhead bridge crane, a hoist or a loader, put the box set in place with the crossbeam. Attach to the cheeks with the screws supplied.
- Finish by placing the jacks in position, the barrel being on the box side.



All operations carried out at height should be done using a suitable type of scaffolding which is in compliance with regulations currently in force and set out for this kind of product (body protectors, etc…).

The hatch opening jack « LOULOU » come equipped with double-pilot valves. Pay attention to any potential residual pressure that there might be between the valve and the jack.

9-APPENDICES

APPENDIX 1

NOTES FOR SUSPENSION USE OF THE HYDRAULIC JIB

1- SYSTEM PRESENTATION

All trailer tillers are classed as hydraulic suspension jibs when they come fitted with absorption systems which are powered by hydraulic technology rather than by parabolic springs.

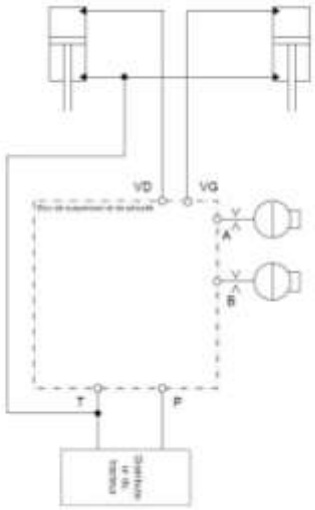
The system is governed by the tractor. The user can correct the height of his tiller trailer in real time.

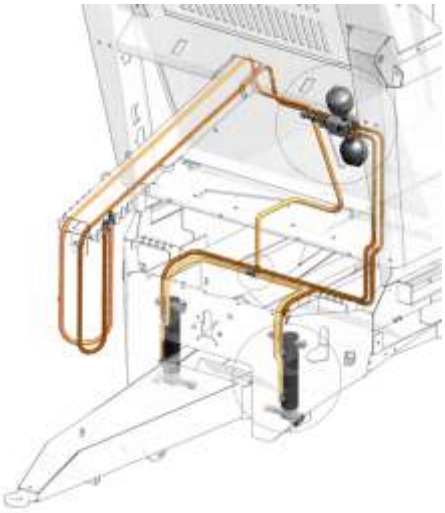
2- OPERATING PRINCIPLES

The system mainly comprises the following elements :

Component	Quantity	Illustration
Suspension jack	2	
Suspension block with tiller fitted with two membrane accumulators	1	
Jib	1	

The different elements are assembled according to the following outline:





3- SETTINGS IMPLEMENTATION AND USAGE

- The jib should be set in such a way as to keep the trailer in a horizontal position.
- It should however rest on the jackpin to deaden powerful bumps (≈ 3cm)

2 methods of use are envisaged:

- It may be that the user wants a predefined trailer height setting valid throughout. In this case the feed tubes on the circuit are not connecterd to the tractor. It is to be noted thst the tiller functions in closed circuit , i.e, when the dumper is loaded, it can knock itself over, and when going spreading, the jacks can be deployed and no corrective action is possible.

→ This method of use is strongly advised against, despite the potential benefits of having a distributor on the tractor.

- Should the user leave pipes permanently attached to the tractor, he will thus be able to alter the tiller height in real time and catch at will any jack oscillation due to any variation of load in the vehicle.

→ This is the »normal» use of the system.
→ Operating this way gives maximum suspension supplety.

N.B : 2 or 3 adjustments are possible at the height attachment jack. The process for attachment height procedure is the same as for the spring rest (see page 28)

APPENDIX 2

USE NOTICE FOR PASSIVE SUSPENSION ON THE UNDERCARRIAGE (Closed circuit) (ROLLMAX option)

1- SYSTEM PRESENTATION

Inactive, or even closed circuit suspension on train undercarriages comes equipped with an autonomous shock absorption system.

The circuit is completely independent of the tractor.Suspension is regulated once and for all (whilst still remaining alterable on occasions where necessary).Adjustment is made in such a way that there is an optimum maximum articulation of the load .A jack stroke being at 200mm, optimum articulatuion will be about ± 100mm.

The user cannot rectify the height of his vehicle in real time.

2- OPERATING PRINCIPLES

The system mainly comprises the following elements :

- 4 suspension jacks for a 2-axle vehicle (6 for a 3-axle vehicle)
- 1 hydraulic suspension management block
- 2 pistons accumulators

The system mainly comprises the following elements:

Compoennt	Quantity	Illustration
Suspension jack	4 suspension jacks for a 2-axle vehicle (6 for a 3-axle vehicle).	
Passive suspension block B	1	
Nitrogen ballholders	2	

2 remarks :

⇨ There is a system in place during assembly intended to counter vehicle roll. Oil will never just flow to where it is « easiest » Loads will be consistently equal on all 4 wheels, which in turn provides hopper stability.

⇨ The pressure limit gauge is intended to even out abnormal peak pressure demands (violent powerful bumps).

3- SETTING AND USE RECOMMENDATIONS

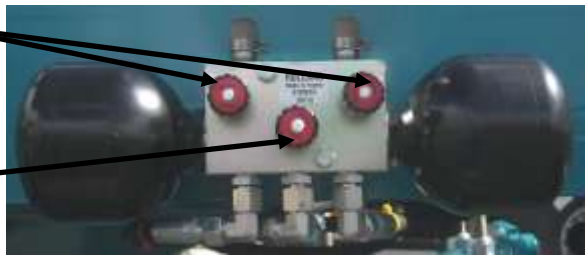
a. To increase the height of the suspension (raise the box) :

To add oil to the suspension circuit (if the height is deemed insufficient for example), it is necessary to go ahead in the following manner :

Passive suspension block :

External faucets

Middle faucet



Manonometer assembly possible

- Attach the pipe marked by a spot to the tractor (the long green one).
- Open the two external block valves (see photo).The middle valve must be closed
- Feed the oil circuit via the tube attached to the tractor until the desired level is attained A.
- Reclose the two external valves and open the middle valve.
- Release the residual pressure present in the pipe, whilst setting the tractor distributor to "float".
- Disconnect the (long green) tractor pipe.
- Only the (short green) drain return pipe should remain connected.

ATTENTION: Be aware that spreader height may vary dependent on the internal load.

b.To increase the height of the suspension (raise the box):

To remove oil from the suspension circuit (where height is deemed too important for example), it is necessary to go ahead as follows :

- Attach the connector marked by a spot (the long green one) to the tractor.
- Open the 2 external block valves (see photo).The middle valve should be closed
- Set the relevant tractor distributor to "float" position until the required height is attained.
- Reclose the 2 external valves and open the middle valve.
- Release the residual pressure present in the pipe, whilst setting the tractor distributor to "float".
- Disconnect the (long green) tractor pipe.
- Only the (short green) (vert court) drain return pipe should remain connected.

RECOMMENDATIONS FOR USE :

The tube which serves to regulate the height of the hopper must only be connected in suspension interventions. In normal operations, this pipe must be attached tto the pipe box door nose.
On the other hand, the "drain" pipe (oil return in the event of high excess pressure) must remain permanenetly attached to the tractor.

AXLE OPTIONS BEFORE PRESSURE ABSORPTION (with 3 axles) :

A basic pipe (in a brown sheath like with the load transfer function) allows axle command before absorption. In normal operating conditions (3-axle suspension), it is vital to set the tractor distributor to "float".

This option is not recommended for 2-axle vehicles since it is incompatible with rear steering axles. The combination of these two options would lead to vehicle instability.

9- Maintenance Log

Operations to carry out before start-up (by the DEALER)

Date	Operation	Remarks	Visa
	- Check wheel tightness	Every 50 km then twice yearly or at he beginning of each season	
	- Check tyre inflation pressure	Twice a year or at the beginning of each season.	
	- Check for axle tightness or the axle fulcrum	Twice a year or at the beginning of each season.	
	- Grease points indicated in the handbook	Check before each use	
	Actions to be carried out prior to use by the repurchaser		
	- Check for proper service brake tightness, for breakages and stationary positioning	Make up for any defects found as necessary	

Maintenance Log

Date	Operation	Remarks

11- CE Conformity Declaration for machines

(According to Annex IIA of Machines Directive 2006/42/CE)

Manufacturer: Ets ROLLAND
Address: Z.A des Landes 29800 TREFLEVENEZ

Name and address of the person authorised to elaborate technical dossier:

Name : Béatrice LE GALL
Address : Z.A des Landes 29800 TREFLEVENEZ

Through this document, we declare that

The machine:

- Brand: ROLLAND
- Commercial Designation:
- Type:
- Serial Number:

↳is in accordance with the relevant disposals of Machines Directives (2006/42/CE).

In addition, we declare that

↳ (parts / articles) compliant with the following European standardised standards were applied.

-EN ISO 12100-1 & 12100-2

Done at TREFLEVENEZ, on
Name and title of signatory
Béatrice LE GALL
General Director

REMORQUES ROLLAND

12- WARRANTY CERTIFICATE – DECLARATION OF *START-UP OPERATION*

Examples in this instance

USER

Name : …….
Address : ……
Post Code : ……City: ……..Country……..
Landline : …… Mobile ……
Fax : …… Email : …….

VEHICLE

Type of vehicle : ……
Series N° (on the invoice or on the disc plate) : …….
Purchase date : …….
Delivery date : …….

GUARANTEE

Our vehicles are guaranteed for one year starting from the delivery date.Conditions of use are stipulated in the service handbook which accompanies the vehicle. The prescribed conditions of use must be respected at all times, where this isn't the case then the guarantee will be rendered invalid. Movement and transport are not included in the guarantee. Only fully purchased vehicles may benefit from the guarantee.In ther event of difficulties the user should contact the dealer in the first instance.

☐ **I acknowledge that I am aware of the service terms and conditions and undertake to respect the terms and conditions contained herein in order to take advantage of the one year guarantee**

Name and signature of service person responsible : **User signature :**

YOUR VIEWS COUNT
For the purposes of continuous improvement, please reply to the questions below : (tick your choice)

	Good	Average	Bad
Compliance with delivery terms			
Delivery quality			
First impressions of vehicle			
Start-up quality			

Your decision was based on : (3 possible choices on descending scale 1-3, 1 being your first choice)

Good price to quality ratio
Product design
Delivery time
Brand reputation
Brand quality
Brand trustworthiness

Your comments……..

VOTRE AVIS EST PRIMORDIAL

Dans le cadre de notre démarche d'évolution continue, merci de répondre aux questions ci-dessous :
*(* Cocher selon votre choix)*

	Bien	Moyen	Mauvais
Respect du délai de livraison			
Qualité de la livraison			
Première impression sur le véhicule			
Qualité de la mise en route			

Votre décision a été motivée par : *(*3 choix possibles par ordre de priorité de 1 à 3, 1 étant le premier choix)*

	Le rapport qualité/prix
	Le design du produit
	Votre concessionnaire (Proximité, service, relationnel commercial)
	Le délai de livraison
	La notoriété de la marque
	La qualité de la marque
	La fiabilité de la marque

Vos commentaires : ……
……
……